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Canada Power & Paper Corp's Reorganization

Security Protective Committee, Which Sponsored Plan, Claims to Have Secured Enough Shares On Deposit to Make Success Fairly Certain—Belgo-Canadian Preferred Shareholders Committee Empowered to Utilize Services of Independent Valuator and to Employ Trust Company As Depository for Belgo Preferred Shares

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., July 13, 1931.—The fate of the plan for the re-organization of Canada Power and Paper Corporation will doubtless be decided by the time this appears in print, for the period during which securities may be deposited for exchange into securities of the proposed new company expires on July 15. The Security Protective Committee who put forward the plan are said to have secured enough shares on deposit to make the success of the plan fairly certain, and there is a general disposition to believe that the plan will be adopted.

Meanwhile a committee of preferred shareholders of Belgo-Canadian Paper Company had another meeting yesterday. As a result of its investigations this committee, consisting of Leslie H. Boyd, K.C., L. M. St. B. Collins, Aime Rolland and John Stadler, find that "on the basis of award as made by the Security Protective Committee to the other companies each of the Belgo preferred shares would be entitled to receive $60 of the new bonds to be issued and five common shares of the new company." The Dunning Plan would give three shares of common stock to the Belgo preferred stockholders, for each preferred share. The meeting was well attended.

A resolution was passed giving the committee the necessary powers to act as they should see fit on behalf of the preferred shareholders, and particularly empowered them to employ a trust company to act as depository for Belgo preferred shares. Another resolution empowered the committee to utilize the services of a competent and independent valuator, who should go into the matter of evaluating the various properties, etc. Still another concerned the appointment of a legal advisor. All were adopted by the meeting in due course.

It will be remembered that the Anglo-Canadian Pulp and Paper Mills were not included in the proposed reorganization of Canada Power and Paper, and one Montreal paper has published the following: "The first definite sign of Lord Rothermere's recovery of his Anglo-Canadian Pulp Mills from the maw of the Canada Power merger, is the announcement that the mill has received a contract to supply the London *Daily Mail* with 100,000 tons of news print during the coming year."

Questioned in regard to the above, Robert A. McInnis, manager of the Anglo-Canadian Pulp Mills, said the report of the contract was unfounded. "I should like to see that story true," said Mr. McInnis, "but it is entirely unfounded. We have always supplied the *Mail* with its paper requirements and will continue to do so. No extra order has been received and the situation of the mill, as far as production goes, will not be favorably affected by any change in the *Daily Mail* policy."

Price Bros.' Unique Distinction

Price Brothers & Co., of Quebec, are now featured in the news as the only news print company in Canada, in whose stock there is a public investing interest, which is maintaining regular dividends on its preferred and common shares. On July 2 the usual quarterly disbursement of 1⅝ per cent was paid on the preferred and a payment of ½ of 1 per cent was made on the common for the same quarter.

In 1930 net earnings of Price Bros. showed a relatively small decline, totalling $3,308,954, as compared with $3,332,798 in 1929. After provision for bond interest and depreciation there remained a sum equal to $20.65 a share on the preferred and $2.18 a share on the common. A dividend of 6½ per cent has been maintained on the preferred since 1926, while the common has paid $2 a share since 1921.

New Industry for Three Rivers

A new outlet for pulp products in Three Rivers, Que., is foreshadowed by the announcement that Canadian Industries, Ltd., a powerful corporation associated with the Du Pont interests, will erect a $1,500,000 plant in that town for the manufacture of cellophane.

Arthur B. Purvis, president and managing director of Canadian Industries, states that protection afforded by the Conservative Government's tariff is directly responsible for the new venture. Formerly the tax on cellophane imported from the United States, where the industry is flourishing on a very large scale, was five per cent, and at this rate competition by Canadians was impossible. The new Government raised the duty to 10 per cent, and just as

(Continued on page 30)

Philadelphia Paper Market Is Marking Time

While Local Trading Is Generally Dull At Present, Due to Seasonal Conditions, More Frequent Inquiries for Future Deliveries Are Around—Majority of Pennsylvania Paper Mills Are Operating On Summer Schedule of Three to Four Days

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., July 13, 1931—Duller trend in the current month is offset among wholesalers and mill representatives in the Philadelphia paper industry by more frequent inquiries for future deliveries, which the sales agents hope may materialize in actual orders at an early date. Though mill agents report more frequent inquiries for large orders, few have been placed so far this month. It is not likely, mill men state, that business will be transacted and purchases made before August for Fall stocking. The mill representatives and brokers who represent the large manufacturers of book paper and who have representative following in the publishing and printing industries, are the most concerned with inquiries. Other mill agents report some shopping around for future deliveries in requests for prices on bulk quantities.

Paper manufacturers in this territory have been slowing up operations since the first of July. The manufacturers have placed their plants on summer schedule of from three to four days, with one or two mills on full time. Since the Independence Day celebration few have re-opened on the basis maintained prior to that time. In the meantime plants are being overhauled, although there will be little of this work necessary this year and few improvements made, mill men state, owing to the uncertainty of the business outlook.

United Efforts at Stabilization

United effort is evident among the large bag manufacturers in stabilization of the bag market. Since the current month began quotations have been advanced five per cent and prices on odd bags have been raised to fractionally higher levels. This is due to the advance in the price of paper, so the manufacturers state. While these prices are effective among the nationally prominent producers of bags, they are not adhered to by local independent bag makers, who still continue keen competition for orders at the mixed quotations prevailing throughout the earlier year.

Spottiness of demand in a dull wrapping paper market of the typical summer type creates little encouragement for the near future. There is a fair volume of active shipments of hot weather specialties, such as drinking cups, soda fountain supplies, ice cream paper containers, and food wraps in parchments and waxed papers. Box makers are slower than usual owing to the summer schedule now prevailing among the box manufacturers, who are on part time operation and closed all day Saturday. Chip is selling at $27.50, while news boards are off at from $29 to $30, according to the volume of orders placed. Fancy box makers' papers move slowly.

Quiet Demand for Fine Paper

There is little demand for fine paper, normally active at this time. Usually at this time greeting card manufacturers are in the market for many lines of paper of standard types or fancy grades. This year buyers of greetings are showing no interest at all and manufacturers are holding off production awaiting orders from retailers or distributors. Manufacturers of high grade bonds report fair demand in the month of June with business slightly in advance of June of last year. On the whole, mill representatives were agreeably surprised to find June sales slightly on the increase over the same period of 1930. July outlook for fine writings appears equally encouraging.

Charles J. Cohen Co. Completes Rebuilding

Following the fire which a few months ago destroyed the equipment and stocks of envelopes of the Charles J. Cohen Company, manufacturers of envelopes, at the northwest corner of 5th and Ludlow streets, the building and machinery subjected to damages have been rebuilt and business resumed in the old quarters after temporary absence pending repairs. The entire upper floors to which the fire was confined have been entirely remodeled and modernized and the very latest of envelope manufacturing machinery installed. The box department has also been modernized with latest type of machinery. The Cohen company is one of the pioneer envelope concerns of the East and was the first to be established outside New England. It dates back to 1838, when it was founded. The present building has been occupied and owned by the firm for more than half a century. It has been repainted and modernized outside as well as inside, the five floors used in the envelope business having been practically reconstructed. The present head of the company and son of the late Charles J. Cohen, noted in art and civic circles of the Quaker City, is Albert J. Cohen, a graduate of the U. S. Naval Academy and retired officer of the U. S. Navy, who succeeded to the business on the death of his father.

Paper Manufacturers Co. New Unit

Construction of the new addition to the gummed tape division of the Paper Manufacturers Company, is now nearing completion. The building is finished and the interior in process of decoration. By the end of the current month all will be ready for the installation of additional machinery for the manufacture of gummed tapes, stay papers and gummed sheets for the lithograph and printing trades. The firm will occupy an entire city square adjoining the railroad siding that belts that section near the heart of the city. While the Paper Manufacturers Company has for many years been linked with the wrapping paper and roll converting branches of the paper industry it was only a year ago that it undertook the production of gummed tapes and stay papers under its own label of Perfection and Kraft Weld. With the completion of the new unit, which is a twin structure to the older buildings, constructed shortly after the World War, the firm will extend its production to the manufacture of gummed sheet papers in all colors. The growth of distribution in its gummed papers has been so rapid that the head of the firm, Frank A. O'Neill, was obliged to add to its plant facilities and this year tore down the six adjoining buildings which were bought during the past three years to make room for the new unit. The new quarters will be ready for operation on the return of Mr. O'Neill from abroad, shortly after Labor Day.

Individual Drinking Cup Adds Colored Line

The Individual Drinking Cup Company, with converting plant and mill at Easton, Pa., has this season placed on the

market a complete line of colored cups in its Dixie brand, along with colored assortments in ice cream containers, soda fountain supplies, and like products. These are distributed by the Paper Manufacturers Company and other paper distributors.

Thomas M. Royal & Co. Holds Sales Convention

Associates of the executive staff and sales organization of Thomas M. Royal & Co., one of the largest manufacturers of paper bags and cellophane faced bags in the country, will hold the mid-summer convention and sales conferences at Beach Haven over the current week-end. The executives who will preside at the various sales meetings and talks are Vice President Gordon H. Friend, who is also general manager; Sales Manager Edwin Hamilton, of the Philadelphia headquarters; William Kohl, manager of the Chicago branch; and Ernest Ballard, sales manager of the New York branch. The meetings will be held on Friday and Saturday, while the social program mingled with business and sales discussions will consist of sailing parties, fishing and other aquatic pastimes and dinners at the local hotel. More than a score of sales representatives will join in the program. Thomas M. Royal, head of the firm, will not be present at the annual sales convention as he is now touring Europe accompanied by Mrs. Royal and will remain abroad until after Labor Day.

Leonard Raymond Returns from Strathmore Mills

Leonard Raymond, accompanied by M. K. Christine, of the Raymond & McNutt Company, who has been touring New England, and who attended the Strathmore Paper Company convention at West Springfield, Mass., in late June has returned to his desk.

Charles McDowell on Yachting Trip

Charles McDowell, head of the McDowell Paper Mills in Manayunk, left July 3rd for a yachting cruise on Lake Champlain, where he will remain for a fortnight as the guest of Charles Eisenlohr on his yacht. The McDowell Mill is one of the few paper making concerns that have been able to maintain operations on full time this season. The mills are devoted to manufacture of glassine and waxed papers and high grade white wrapping papers, such as used by the drug and confectionery trades.

Thomas R. Fort, Jr., at Seashore

Thomas R. Fort, Jr., head of the Thomas W. Price Company, who has been at his home indisposed in recent times, is now at the seashore resting during the hot weather.

N. A. Considine Inaugurated in Ad Club

Norbert A. Considine, head of the Paper House of Pennsylvania, was again inaugurated as first vice president of the Poor Richard Club—the Philadelphia advertising men's organization—last week. He was elected at the meeting held last May, and has been vice president of the Club in former years, having been consecutively re-elected for several years prior to retirement from activities in that body more than two years ago, following an illness from pneumonia.

Make Cellophane Doilies

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., July 14, 1931.—The Package Paper Company of this city is meeting with success in the introduction of a line of cellophane doilies the borders of which are of dainty lace designs many of them reproductions of historic patterns. By a secret process what seems like white printing appears on the face of the cellophane.

Mead Corp. May Acquire Jersey Plant

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, July 13, 1931.—The Mead Corporation is reported on reliable authority to have acquired a substantial, if not a controlling interest in a New Jersey company which has been manufacturing chemically-treated paper for the making of substitutes for leather.

Allan Goldsmith, secretary of the corporation, and W. J. Zimmerman, general manager, have been in the East this week and reported to have virtually completed arrangements for taking over the plant. It is said to be possible that a plant may be located in this city or some other section of Ohio, probably in the Miami Valley.

Mead Corporation engineers became interested in the new type leather substitute made from paper when it was found to be tougher and less expensive than genuine leather. Careful study and research work on the part of the Mead Corporation has been in progress for some time. It is said that experiments have shown that shoes made from the paper material, which has been treated by this peculiar chemical process, are superior to those made from leather. In a test made with the shoes it was shown that a pair made of the paper material wore for three months, with less evidence of wear, than the leather kind worn for a period of four days.

Officials have become so enthused over the prospects of developing an entirely new product from paper to replace leather, with added advantages of longer wear and lower price, that an option for six months has been taken on the New Jersey plant.

While the Mead Corporation is said to have had an interest in the Eastern plant, formal transfer of the controlling interest is not scheduled before August 1. The composition which is being made in the New Jersey factory is known as "mocotan". It has been used extensively for bags, book covers, and kindred articles requiring heavy wear or duty service.

With the tests made in Chillicothe, Ohio, laboratories of the Mead Corporation said to have proven a success, it is declared to be possible that the business will be developed in an aggressive manner and that within six months the plant may be moved to Ohio. Dayton or Chillicothe, it is understood, have been considered as possible sites for a new establishment.

Buys Cascade Paper Plant at West Tacoma

Sale of the assets of the Cascade Paper Company of West Tacoma to W. L. Raymond of Seattle, has been confirmed by the Pierce County Superior Court.

At the time that Mr. Raymond's bid was made he was representing the interests of the Everett Pulp and Paper Company of Everett, Wash., and the Crown Zellerbach Corporation of San Francisco. However, arrangements have been made whereby the Everett Pulp and Paper Company of Everett, Wash., will take over the entire plant, and the Crown Zellerbach Corporation of San Francisco will not have any interest therein.

The Everett Pulp and Paper Company have been manufacturers of book, label, and writing papers on the Coast for forty years, distributing their products under the trademark, "Rely on Everett", through the jobbers on the Pacific Coast. It is the intention, as soon as business conditions warrant, to operate the Cascade plant at West Tacoma.

The officers of the Everett Pulp and Paper Company are as follows: Wm. Howarth, president and treasurer; A. H. B. Jordan, vice president; W. J. Pilz, secretary and manager. Sales offices are maintained in San Francisco and Los Angeles.

Chicago Paper Market Practically Unchanged

Fine Paper Section Affected By Summer Quietness, Although Tonnage Is Moving In Fairly Satisfactory Volume—Kraft Wrapping Paper Situation Improving, With Prices Firmer Than of Late—Ground Wood and News Print Paper Generally Dull

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., July 11, 1931—Little change in the Chicago paper market is reported this week. In the fine grades there is some hesitancy about reporting the condition of business until there is a better knowledge of what the outcome of price cuts will be. As far as tonnage is concerned this particular market seems to be doing fairly well for the season of the year. What the price cut will do to actual profits is quite another thing. Kraft prices continue firm and this firmness is having a rather pleasing effect on the business being done. Ground woods and news prints are reported dull and unchanged over a week ago. Low prices are helping to create quite a quantity of bitter competition which is keeping the market quite active. The board market is said to be more or less marking time until fall. Book and cover papers have not changed during the past week, both affected by the summer quietness that now seems to have settled definitely for the next month or so. Waste paper prices are reported at a low and unchanged range and a general dullness seems to prevail. Activity designed to give the waste paper market a proper place in the business sun is expected to have a stimulating effect by Fall.

Paperboard Industries Golf Tournament

A golf tournament will be one of the features of the mid-summer meeting of the Paperboard Industries Association to be held at Hotel Champlain, Bluff Point-On-Lake Champlain, New York, on July 22 and 23. The tournament will be in charge of a committee consisting of M. M. Madson, J. J. Brossard and C. G. Maher. Representatives of companies supplying materials used by the paper board, container and folding box industry have been invited to participate in the tournament, according to word from the headquarters of the association in Chicago.

Meetings of the folding box group and the paper board group, under the leadership of vice presidents E. V. Donaldson and Henry D. Schmidt, will be held on Wednesday, July 22, while the container group, with R. H. Dollison presiding, and a general meeting at which President J. H. Macleod will preside, will be held on July 23. Committees covering sales promotion, statistical subjects, standardization and the executive committee will meet at the Hotel Champlain on the morning of July 21. Early reservations indicate that the attendance at the July meeting will be exceptionally gratifying.

News of the Trade

George D. Gaw, head of the Gaw-O'Hara Envelope Company, has been elected by Anton Cermak, Mayor of Chicago, as the official greeter of the city. His duty will be to welcome notable guests to the city. Mr. Gaw is active socially and a member of several clubs. As official greeter he will serve without pay. A snow white automobile will be at his disposal and in formalities of civic nature Mr. Gaw and his white car will be preceded by two white motor cycles.

A. D. Hunter, for the past two years president and general manager of the Maverick-Clarke Litho Company, of San Antonio, Texas, has joined the Butler Paper Company, Chicago. R. P. Grieve, vice-president of the Maverick-Clarke Company, has succeeded Mr. Hunter as general manager of that company.

Harold Knott, Eastern Manufacturing Company representative in this territory and head of the Salesmen's Association of the Paper Industry, will return to Chicago on July 20 after a three weeks combined vacation and business trip in the Eastern part of the United States. Mr. Knott spent some of his time in the Eastern Manufacturing Company mills.

The Middle West Division of the Salesmen's Association of the Paper Industry holds its third monthly golf tournament over the Westmoreland Country Club course on July 24, according to word from Henry Johnson, of the Brown Company, chairman.

Current business and advertising publications are featuring No. 7 of another West Virginia Pulp and Paper series on "Monuments of Industry." The current "Monument" is stone and the unusual illustration depicts industrial uses of stone, the copy mentioning that the industry tells its story effectively through paper. The Westvaco distributors, 36 of them, are carried on the reverse side of the advertising insert.

The uses of Howard Bond in the transportation field are given in the current Howard Paper Company direct mail folder printed in blue and black colors. The copy effectively points out the varied uses of bond in a hundred and one angles of the transportation services. The strength and toughness of the bond are also listed. Chicago distributors of Howard Bond are the Midland Paper Company; Parker, Thomas & Tucker, and the Moser Paper Company. The John C. Streibich Company, of Peoria, are down state distributors.

Boston Paper Trade Happenings

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., July 13, 1931.—The New England Paper and Pulp Traffic Association has decided to protest against any advance in freight rates on paper and raw material.

C. S. Hall, manager of the envelope department of John Carter & Co., Inc., is getting on as well as could be expected after a major operation at the hospital at Holden, Mass. About a year ago Mr. Hall underwent a serious operation.

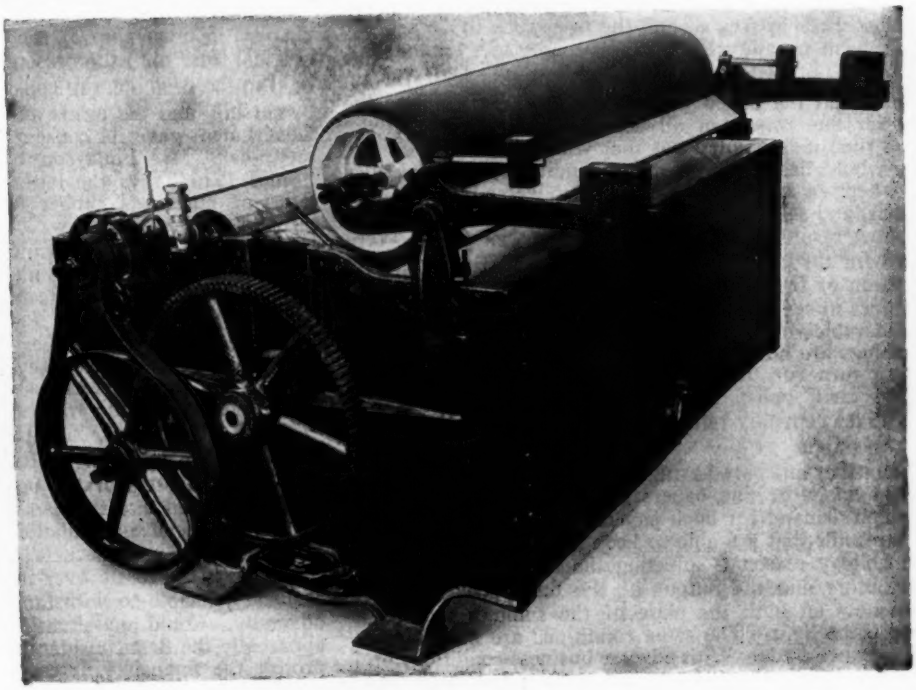
George D. Allen, treasurer of Knight, Allen & Clark, Inc., has gone to Scituate, Mass., on the South Shore, for his vacation, accompanied by his family.

Miss Anna G. O'Brien, order clerk for Baird & Bartlett Company, box board dealers, since the company started business 24 years ago, and well known to many of the customers of the firm, has left for a month's visit abroad, including England and the Continent.

The Binford Paper Box Company, Boston, has been incorporated. There are 100 common shares without par value. The incorporators are: Whitcomb P. Oury, president; Jesse E. Phillips, 7 Timothy Avenue, Cambridge, Mass., treasurer; and Margaret P. Giblin.

The Waterfalls Paper Mill, Mechanic Falls, Me., is building a large addition to the finishing room.

They're getting BARGAINS



in FIBRE

Using the Bird Save-All, in a simple closed system, mills are recovering their fibre with the simplest and *most economical* equipment that really works.

They are getting their white water in shape for re-use. They are getting *real bargains* in fibre. Let us show you how your mill can make this saving.

BIRD MACHINE COMPANY
South Walpole - - Massachusetts

BIRD SAVE-ALL

4993

Ontario Paper Mills Are Operating Lightly

While Demand for Book Papers Is Well Maintained, Majority of Fine Paper Manufacturers Are Having Some Difficulty In Securing Sufficient Tonnage to Ensure Steady Production—Coarse Paper Plants Affected By Seasonal Conditions

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., July 13, 1931.—With the holiday in full swing there has been a falling off in sales by the paper merchants. It is not likely there will be any change in the situation until a short time prior to the opening of the Canadian National Exhibition in Toronto which takes up the last week in August and the first week in September. That event usually peps up the paper trade, temporarily, at least, and makes a nice bit of business both for the printer and the paper wholesaler. In the meantime the call for fine papers of all descriptions is light. At the same time it is pointed out that while the season so far, as a whole, has produced spotty conditions, the total sales have kept up fairly well considering adverse business conditions, and sales sheets when the summer ends are likely to show results fully equal to those of last year. Were it not for the holiday season it is quite likely that the termination of the uncertainty as to the tariff and the drop in prices in several lines of fine papers would have added considerable volume to the sales of paper in the province. As things are now it is hardly likely that the market will take a turn for the better and reflect lower prices and settled tariff policy until the paper men and business executives generally return to their desks after their summer vacations.

The paper mills are having some difficulty securing sufficient tonnage of fine papers to ensure steady operation although demand for book papers keeps up and there are certain mills that are able to keep a week's orders ahead. The holiday season is affecting the mills as well as the distributors and the output of the fine paper machines from now on until the close of the summer months is likely to be light. The same conditions are affecting the coarse paper trade. With adverse business conditions prevailing generally throughout the province the retail trade in all lines is making rather small requisitions for wrappings and manufacturing plants are operating lightly. The paper converting trade is still suffering from lack of volume and the envelope manufacturing trade has slackened considerably since the holiday season set in.

To Make Blotting Paper at Don Valley

The Rochester Paper Company, of Rochester, Mich, the well known United States manufacturers of "Warrior", "Arrow" and other well known lines of blotting paper have entered into an arrangement with the Don Valley Paper Company, Ltd., Toronto, whereby their brands for Canadian consumption will, in future, be made at the Don Valley mill. This arrangement has come about, not as the result of any change in the Canadian tariff—for as a matter of fact there have been no tariff changes affecting blotting paper—but as a logical consequence of the growing strength of the sentiment in this country in favor of the purchase of "Made-in-Canada" commodities.

Greedy Financing Charged by Union

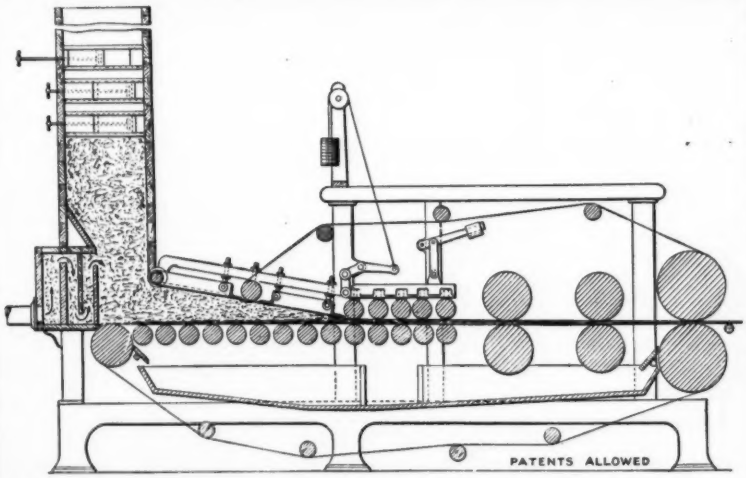
Prefacing their statement with a scathing indictment of the Ontario Government, members of the International Brotherhood of Papermakers, at Fort William, in an open letter to the Hon. William Finlayson, Minister of Lands and Forests, demands that news print companies established in the Fort William district be compelled to operate or relinquish all timber limits granted by the Government. Asserting that Premier Henry has not replied to their request that a report be furnished the city, giving all particulars of timber limits disposed of since 1916, the terms and conditions upon which each area was leased, the changes in ownership of each limit from the date of the original lease until the present time, the amount of money paid to the promoters in consideration of each transfer of ownership, and the terms and conditions upon which the Government gave its consent to each transfer, the statement asks Mr. Finlayson to divulge this information. "Since 1916," says the letter, "more than 13,900 square miles of our finest timber lands, containing millions of cords of pulpwood, besides other valuable timber, have been leased to the paper companies, on the pretext that they would build and operate mills and thus provide employment. These timber limits have been diverted from the control of the Crown to that of the paper companies." The letter asserts that timber, being the common property of the people of Ontario, they surely have a right to know how far the alienation has been justified by results." The utter nonsense of the wholesale diversion of our timber wealth," it continues, "is apparent in the fact that but two mills are operating in this district. Here we have the common assets of the people in the form of timber wealth diverted into the hands of a few promoters, who, through financial manipulations, have put millions of dollars into their own pockets, placing the companies they promoted in a grosely over-capitalized position, and, consequently, unable to withstand even the slightest gale of adversity. Could any situation be more rediculous? Yet apparently the first consideration of the Government is to protect the financiers, irrespective of the sufferings imposed upon the employees through non-operation of the mills."

Backus Reorganization Discussed

The Ontario Government will take steps to protect the interests of the Province in connection with the proposed reorganization of the Backus companies, which claim to have $95,000,000 assets, including an "empire" of timber limits in Northwestern Ontario. Questioned this week regarding a despatch from the United States stating that the Backus financial structure was to be recast, Premier Henry said the Government had received no official notification of any proposed reorganization, but if such was received "there will have to be a showdown to see where the Province stands." E. W. Backus, it will be remembered, received extensive concessions from a former Government of Ontario in the Rainy River district. Alluding to the pulp and paper situation Premier Henry said he anticipated changes for the better would be made in the near future. He had not heard whether the Backus interests had forfeited any of their holdings in Ontario.

Notes and Jottings of the Trade

E. G. Nixon, vice-president of the Lampson Paragon Supply Company, Ltd., recently paid a visit to the plant of Dominion Envelope and Cartons, Ltd., and Dominion Boxboards, Ltd., Toronto. The Lampson Paragon Supply Company have three plants in England and also have



300,000 Square Feet of ½" Board in 24 Hours

Likewise, proportional amounts of board up to 1½" thick are also easily obtained. The Downingtown Board Forming Machine is a radically different type, purposely designed for the CONTINUOUS forming of materials of a fibrous nature into boards of various thicknesses. Waste products from saw mills, steel mills, sugar mills and fibrous materials from other industries can be turned into a saleable product. We have a commercial size laboratory and can make sample board from your own waste, thus securing reliable information on the possibilities of your product.

Downingtown Manufacturing Co.
Downingtown, Pennsylvania

plants located in Germany, France, Austria, South Africa and South America and are one of the largest organizations in their line in the world.

Dominion Envelope and Carton, Ltd., and Dominion Boxboards, Ltd., Toronto, Ont., declared and paid their dividends on July 1, and also declared and paid their dividends on January 1.

Premier George S. Henry, in his speech at the big Conservative convention in Toronto, referred to the part the pulp and paper industry had played in the development of Ontario, and declared it to be the intention of his Government to foster the interests of the industry. He said that it was his belief that, while the industry is at present suffering from adverse conditions, that suffering was going to turn out to be only temporary.

A folder announcing a new paper under the trade name "Laurentic Japan" has just been issued by the Rollan Paper Company, Ltd. The paper is of sturdy texture, beautiful in appearance and offers an excellent media of reproduction for both type and ink, line plates and halftones.

Harold Craftree, president of the Howard Smith Paper Mills, was a visitor to the Toronto offices of the company a few days ago.

D. H. Hudson, of the Hudson Paper Company, Winnipeg, was a business visitor in Toronto during the past few days.

A. J. Loa, of Continental Paper Products, Ltd., Ottawa, was a caller on a section of the Toronto paper trade this week.

Consolidated to Raise Power Dam Level

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., July 13, 1931.—Through authority granted by the city council of Stevens Point, Wis., the Consolidated Water Power and Paper Company will be able to proceed with construction operations to raise the level of its power dam 18 inches. It would become necessary, under the changes, to flood some of the land in one of the city parks. The Consolidated will make a fill which will create an island, and this land is to be improved and connected to the park by means of a bridge. Several lagoons also will be created, and this area will be cleared of trees and stumps before the water is admitted. Most of the cost is being borne by the company in return for flowage rights, and in the end the city will have a much more attractive park than before. Other lands have also been acquired for the flowage rights. A greater head of power will result from the improvements.

Take Over Joliet Paper Mill

JOLIET, Ill., July 10, 1931.—M. Miller and H. Miller, who formerly operated the De Pere Paper Manufacturing Company at West De Pere, Wis., which plant was destroyed by fire May 5, have recently taken over the mill of the Joliet Paper Company at this place and will operate it under the style of the Eagle Paper Mills. They expect to be producing paper next week as they have been getting into shape to do so for the past several weeks.

While this was formerly strictly a wall paper mill, machinery has been installed for sheeting and finishing and the new concern expects to continue manufacturing .009 chip, rag ham, and coarse wrappings as well as specialties which they will introduce from time to time. Being so advantageously located to their former customers, they will be able to extend first class service. The plant is equipped with one Fourdrinier paper machine, trimming 105 inches.

Paper Demand Light in Indianapolis

INDIANAPOLIS, Ind., July 13, 1931.—Granted that the local paper trade is in the summer doldrums, there seems to be a minimum of pessimism among local manufacturers and jobbers. There is every confidence that the late summer will see a change for the better and that stronger prices in most lines will be the rule. There is some call for book papers and the various advertising agencies here say they have considerable work in sight for mail order campaigns for the fall season. Some of the larger industries are beginning to think about their own direct mail business and the next catalogues. Bristol boards and demand from the greeting card manufacturers continue fairly steady.

Right now the summer specialties have all the edge. Stocks in the hands of retailers were virtually wiped out during a fortnight of torrid temperatures and they have been forced back into the market. Soda fountain supplies and parchment and waxed papers are going nicely and the volume likely will be ahead of that of last year. Cups, towels and toilet supplies all have reacted to the season.

The paper stock situation continues about the same. Local dealers are loath to sell at prevailing buying prices, but with the available storage spaces crammed to capacity they are being forced to sell even at ridiculous figures in order to do any business at all. Nor does the local stock trade expect much better conditions until fall at least.

Demand for wrapping papers is very light. This is due, of course, to seasonal influences and vacations. The bag market is in only fair condition.

Manufacturers of paper cartons report only a limited demand but say some of the spottedness is being wiped out even though the orders from some previous non-orderers are for small amounts. The fall season should see more different industries in the market, they say.

Crown Willamette Shows Profit

[FROM OUR REGULAR CORRESPONDENT]

Consolidated net profits of Crown Willamette Paper company, a division of Crown Zellerbach corporation, aggregated $1,946,321 for the fiscal year ended April 30, 1931, according to the annual report just released. These earnings include the operations of Pacific Mills, Ltd.

Gross profit totaled $6,754,282 for the period. After deducting dividends on the preferred stock of Pacific Mills, Ltd., in the hands of the public and the minority common stockholders' share of the profit of that company, there remained a profit of $1,893,631 available for dividends on the preferred and common stocks of the Crown Willamette Paper company.

During the year $2,046,286 was invested in addition to property and plants, the major part of which was under the construction program which has now been completed. Crown Willamette Paper company bonds aggregating $406,500 and Pacific Mills, Ltd., bonds in the amount of $203,700 were redeemed and canceled and $204,000 was applied on account of deferred payments on timberland purchases. The company has continued its conservative policy in respect to depreciation reserve and in consequence these capital expenditures aggregating $2,860,485 were financed from earnings without any impairment of working capital.

Balance sheet of Crown Willamette Paper company shows a good position with current assets more than two times current liabilities. Total assets as of April 30, 1931, stood at $71,931,536, as against $71,388,358 for the preceding year.

Outwears because it out-cushions all others . . .

Only Goodrich rolls are Vulcalock rolls. For Vulcalock is an exclusive Goodrich development. A process that joins soft rubber directly to metal, with no hard rubber base. The bond is practically as strong as the rubber itself.

Soft rubber right down to the core.. Goodrich Vulcalock Rolls provide a greater depth of uniform cushioning ..longer life..lower cost per ton . . . .

THREE kinds of couch rolls. The homemade felt or sponge roll. Not so good. The ordinary rubber-covered roll with a hard rubber base. Better. The new Goodrich Vulcalock roll. Best of all...because it's *soft rubber right down to the core.*

The difference is a difference in *cushioning.*

The felt or sponge roll soon becomes hard. Loses its cushioning effect. It becomes lopsided. Pounds on the cylinder mold.

The ordinary rubber roll is robbed of much of its cushioning power by the hard rubber base. A "dead" foundation that's sheer waste so far as cushioning effect is concerned.

The Vulcalock roll is soft rubber *clear to the core.* One hundred per cent "live" cushion. Runs true; always retains its cushioning effect; thus gives a fuller contact against the cylinder mold. Picks up the sheet more efficiently. Takes out more water. Its soft rubber cover is very tough. It sturdily resists wear. And, of course, it can be used until it is worn down just as close to the metal itself as to the hard rubber layer in the ordinary roll. At last, a couch roll truly economical.

Would you like facts and figures on performance? Write us. We'll send you the names of mills that will gladly report their experience with Vulcalock couch rolls. The B.F.Goodrich Rubber Company, Inc. (Est. 1870), Akron, O.

VULCALOCK *Paper Mill* ROLLS

Another B. F. Goodrich *Product*

Couch Rolls · Press Rolls · Table Rolls · Wire-Carrying Rolls · Felt-Carrying Rolls, Both Plain and Wormed · Wringer and Squeeze Rolls

Obituary

Peter G. Thomson

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, July 13, 1931—Death came unexpectedly to Peter G. Thomson, president of the Champion Coated Paper Company, of Hamilton, Ohio, and chairman of the Champion Fibre Company, of Canton, N. C., at Christ Hospital, Cincinnati, Friday night, following a period of convalescence from an illness which did not appear to be critical. His demise was due to a heart attack.

Mr. Thomson, who was one of the leading paper manufacturers in the country, and who was widely known in industrial circles, had expected to leave the hospital next Wednesday. He was nearly 80 years of age but always had enjoyed excellent health until his recent illness.

Funeral rites were held Monday afternoon at 3 o'clock frim his late home in College Hill, with the Rev. Dr. R. D. Le Count, pastor of the First Presbyterian Church, officiating. A large number of representative residents of Hamilton, Cincinnati and Dayton were in attendance, and the trade was well represented. The services were simple and impressive.

Peter Gibson Thomson was born in Cincinnati, Dec. 16, 1851. His father and mother, Alexander and Mary Ann (Edwards) Thomson, then lived on E. Third St. His father was born in Paisley, Scotland, and his mother in Abergavenny, Wales. Both came to Cincinnati as children. Thus it was that Peter G. Thomson came half of Scotch and half of Welsh stock, inheriting the best of both, but by birth and environment he was wholly American. His only schooling was in the Cincinnati public schools—and, although he left school at the age of 14, few men had a better education, for all his life he was an omniverous reader and a student of literature.

His first independent venture was in the book trade, as he opened a book store of his own at the southeast entrance to the Arcade on Vine street. While actively engaged in the selling of books he made a private collection of books relating to the history of the northwest territory. These books he bound magnificently, sending many of them to London and Paris to celebrated book binders so that they should be bound in the highest style of book binders' art. This collection was and is the greatest of its kind in America. Fortunately it is available for students, as it is in the permanent keeping of the Historical and Philosophical society, whose great and interesting collection is now housed under the roof of the Van Wormer library at the University of Cincinnati.

The book store at the entrance to the Arcade flourished for six years. Then it was sold out and Mr. Thomson took the building on Race street, now occupied by the Robert Mitchell Furniture Company, and which had just been vacated by the Russell & Morgan Printing Company, and started there color printing, the main output being children's books and comic valentines. This enterprise was so successful that it threatened the supremacy of McLaughlin Brothers, who were engaged in the same kind of business in Brooklyn, and to end a competitor who was rapidly expanding they bought out Mr. Thomson.

This sale gave him the first real capital he had been able to acquire. For a year or two he was engaged in one or two minor things, but was in reality looking for a business opportunity that would, in his opinion, be worth while. That came in the shape of a new process for making coated paper. As a practical printer and book man Mr. Thomson realized that a method of coating paper which was at once effective and cheap would be successful. The market for such paper was almost unlimited. That was in 1892, and that was the beginning of the Champion Coated Paper Company, whose immense plant stretches for half a mile along the banks of the Big Miami in Hamilton. From the beginning the business prospered. It grew by leaps and bounds—and from a few thousands of dollars of capital it expanded into millions and it is today one of the great industries of Ohio, with the largest plant of its kind in the United States.

In 1906 Mr. Thomson realized that a source of raw material was necessary and he organized the Champion Fibre Company at Canton, N. C. To furnish this plant with an adequate supply of wood for the manufacture of pulp, more than 150,000 acres of woodland were acquired, most of this virgin timber, and on this property the pulpwood is being so carefully conserved by scientific methods that when it is cut over and the far end is reached, the part where the first cutting was made will be ready with its second growth with as large a crop as at the beginning. In other words, it is a pulp reserve large enough continually to renew itself. Canton, when the fiber company was started was a little mountain town of 400 people—now it has a population of 6,000 with a Y. M. C. A., churches, schools, a good hotel and an admirable country club. It is an industrial town in which North Carolina takes great pride, but as a matter of fact it stands a monument to the enterprise and foresight of Peter G. Thomson. But for him Canton would still be a mere hamlet instead of a flourishing little city.

One reason for Mr. Thomson's success is that he was never satisfied with things as they were; he was never content to accept any part of his great works as having achieved final form—when a thing was done well he immediately set about trying to do it better. The result was that time and time again great and radical changes were made at both the Champion and Canton plants—but these changes had been studied with such care that invariably they meant increased production at a lower cost. It takes courage to scrap a perfectly good department which apparently is doing good work, but Mr. Thomson did this again and again and each time he succeeded literally in making two blades of grass grow where one grew before. He was a great manufacturer. He ranked among the captains of industry who have led this machine age forward and forward to new triumphs. As an employer he was both just and generous. He established a wage scale that gave automatic increases after each five years of service—long before the practice was general he inaugurated a free medical clinic for his men. Free life insurance is given, and a few years ago when the cost of living became a serious item he established extensive commissaries where food and various household supplies were sold at cost. His plants are visited frequently by the representatives of other large industries who come to see how these humanitarian features work out.

Mr. Thomson was a director of the First National Bank of Cincinnati, vice president of the Cincinanti gym, a member of the Queen City club and of the Commercial club—four years ago he served this latter club as president, on the occasion when it went to Washington and was received by President Coolidge. He was also connected with various business organizations in which he was interested.

Mr. Thomson lived to see not only his grandchildren, but his great grandchildren. He had three sons and two daughters, Peter G., Jr.; Alexander, Logan, Mrs. Mary Bell Thomson Randall, wife of Walter De C. Randall, and Mrs. Hope Thomson Robertson, wife of Reuben B. Robertson. Alexander Thomson and Mr. Randall are vice presidents

UNIFORMITY

THE "Diamond" manufacturing process has been so perfected as to permit the most exacting quality control. This control extends from the company-owned sources of the raw products to the laboratory test and analysis of the finished products.

Diamond Alkalies are, therefore, products of constant, unchanging quality and absolute uniformity. Their chemical reaction in your process is always uniform time after time and year after year.

Diamond Alkali Company

Pittsburgh, Pa. *and Everywhere*

DIAMOND ALKALI

of the Champion Coated Paper Company; Logan Thomson is secretary and treasurer, and Mr. Robinson is president of the Champion Fiber Company. Herbert Thomson Randall, a grandson, is also with the Champion Coated Paper Company.

Mr. Thomson was twice married. His first wife was Laura Gamble, daughter of James McFarland Gamble of Louisville. Mrs. Thomson died Jan. 30, 1912. In 1920 Mr. Thomson married Mrs. Kate Prather Wooley, the widow of Edgar Wooley. She is the mother of Danel P. Wooley, vice president of the Fleischmann Company. Mrs. Thomson survives her husband. She is a woman of rare social charm and as mistress of the stately mansion on College Hill presided with grace and dignity.

Franklin M. MacKenzie

[FROM OUR REGULAR CORRESPONDENT]

GOUVERNEUR, N. Y., July 11, 1931—Franklin M. MacKenzie, well known in the paper industry of Northern New York, died at his home here this week following an illness of several years. He was born in Boston in 1884 but came to this section about eight years ago to supervise the installation of new paper machines in the mill of the Oswegatchie Paper Company at Natural Dam. He was regarded as an expert machinist and his counsel was constantly sought on matters dealing with paper mill equipment. His wife is the only survivor.

Cassius M. Clay

Word has been received that Cassius M. Clay, retired, age 70, passed away recently at Circleville, Ohio. Mr. Clay for a number of years has been Superintendent of various mills of the American Strawboard Company, and the United Paperboard Company, located at Tiffin, Ohio; Chestertown, Md.; Urbana, Ohio, and Circleville, Ohio. He died very suddenly on July 3, at his home from heart trouble. He leaves a wife and one son.

Richard H. Fallon

Richard H. Fallon died suddenly on Thursday, July 9, after a short illness. Mr. Fallon was vice-president of the Frank L. Scott Company, Inc., New York, N. Y., having been associated with Frank L. Scott for many years. He was born in St. Louis, Mo., June 29, 1878, and received his early education there and in Chicago, later attending Princeton University, Class of 1899.

Mr. Fallon first entered the paper business in 1914, taking over the Kansas City, Mo., brand of Linton & Scott. On dissolution of the partnership of Linton & Scott, he came to New York, handling the specialty paper end of the Frank L. Scott Company. For the past five years Mr. Fallon had devoted his time to an intensive study of high grade paper boards on which he has been regarded as an authority. His many friends in the trade will deeply regret his death.

Surviving are his wife, two children, his mother, sister and brother. Interment was at Pleasant Valley Cemetery, Poughkeepsie, N. Y.

Patrick J. Dowd

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., July 14, 1931—Patrick J. Dowd, for 20 years manager of the Holyoke Traffic Bureau and an acknowledged authority on transportation matters died Sunday morning at the Providence hospital after several months of ill-health. Previous to becoming the bureau's traffic manager he had been for several years traffic manager for the Powers Paper Company. Previously he had been employed at the old Union Paper Company and the Connecticut River Paper Company both now defunct.

Mr. Dowd's knowledge of transportation matters was very inclusive and his opinions highly valued by the shippers here. His previous knowledge of paper making stood him in good stead and a large part of the classification of papers for shippers was made either by him or at his suggestion. He leaves besides his wife, nine children and three sisters. The funeral will be held Wednesday morning at 10.15 at Dillo's funeral parlors, followed by solemn high requiem mass at the Holy Cross church.

Consolidated Entertains Publishers

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., July 13, 1931.—Summer pleasure tours for newspaper publishers have been resumed by the Consolidated Water Power and Paper Company, of Wisconsin Rapids, Wis. The system was adopted two years ago by George W. Mead, president of the company, as a good will builder among his customers for news print and has proven quite a popular idea with the publishers.

Last week the publishers of daily newspapers in Missouri guests of the company, with arrangements handled by the George W. Mead Paper Institute, of Madison, Wis., with Burt Williams and John Meyer in charge. The publishers toured to Rock Island, Ill., where the pilgrimage was organized to go up into Wisconsin.

The visitors were escorted through the state capitol at Madison, Wis., and also took a tour of the city and visited the University of Wisconsin. They were entertained at the Loraine hotel. From there the party went to Green Lake, where they spent a night at the Lawsonia estate, the former summer estate of the late Victor F. Lawson, publisher of the *Chicago Daily News*. Their next objective was the Mead fishing camp, near Antigo, in the northern lake and forest region. The publishers spent several days there in fishing and other recreation, and in conferences on the problems of the publishing business. The party was joined by Herman Roe, field director of the National Editorial Association, Northfield, Minn., and by a number of Wisconsin publishers. Later groups of publishers from Illinois and Iowa and from other states will make similar pilgrimages. The Mead camp is at the disposal of publishers' groups during the entire summer.

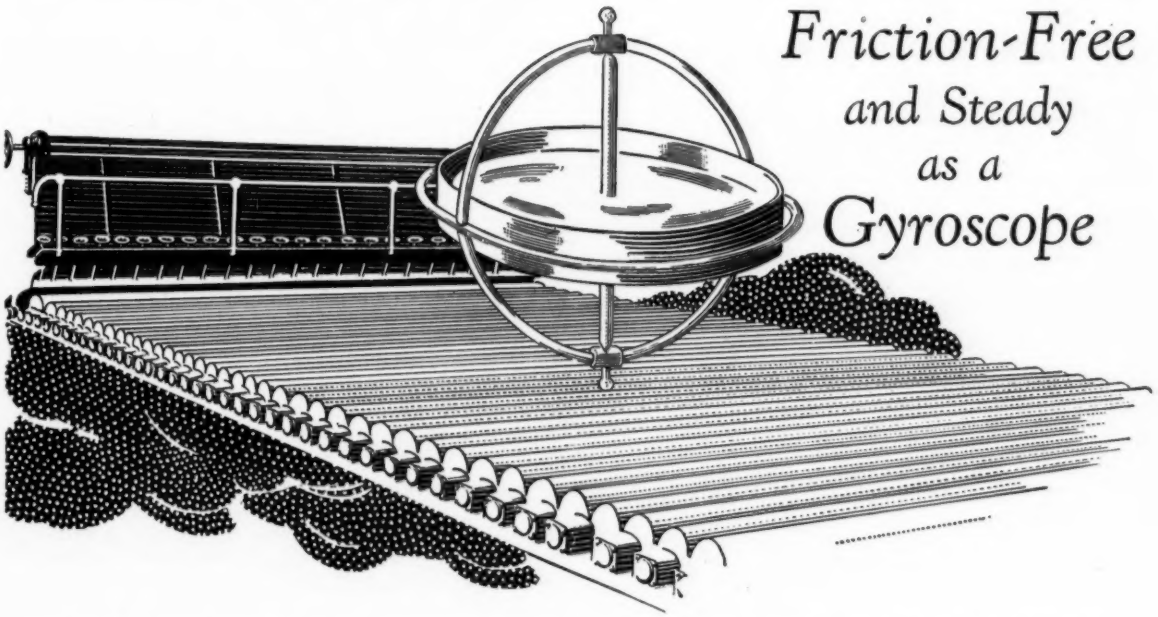
Boston Paper Market Conditions

BOSTON, Mass., July 13, 1931.—A more optimistic sentiment prevails in the Boston paper market. In some houses the volume of orders was greater last week than in the previous week, but in all cases dealers appear to be cheerful. The usual summer slackness does not seem to be so pronounced as ordinarily. The demand for wrapping paper has been somewhat affected during the last week by weather conditions, as fewer people have visited the department and other stores on the oppressive sultry days. No. 2 kraft, however, has advanced ¼c per 100 pounds, making the present quotation .03¾c @ .04½. Paper bags have advanced five per cent in all grades. One house dealing in kraft paper and specialties is finding July so far the best month for orders in a year and a half.

A moderate amount of business is being transacted in fine paper, with a greater volume of inquiries, particularly for writing paper. The market is somewhat spotty, although holding its own. The box board market is fair, but spotty, with a general better feeling. Paper stock is very quiet. Values tend downward, and actual changes in price have taken place in several cases. In bagging, 14 out of 19 grades have been marked down.

Tensilastic Rubber Table Rolls

Friction-Free and Steady as a Gyroscope



One of the largest Canadian mills, running a sheet at 1,100 feet a minute, ran the familiar gamut of table roll troubles;—friction, pitting, water corrosion, pitch accumulations, rapid wear, whipping, distortion,—you know the list.

We persuaded them to try Tensilastic Rubber Table Rolls. Twenty were installed experimentally. Without further solicitation an order for twenty more followed within two weeks, and shortly after another order for more.

The day Tensilastic Rubber Rolls were installed, table rolls ceased to be a vexation,—for here was the answer to *every* table roll problem . . . *because* . . .

Tensilastic Rubber Table Rolls are perfectly balanced. No whip, no distortion, no broken webs from untrue rolls.

Without metal to metal contact, friction, the handicap of speed, eater of power and destroyer of roll life, is practically eliminated,—regardless of machine speed, these rolls spin along smoothly, freely, evenly.

Tensilastics will not pick up pitch or fibre. They will not pit nor corrugate under water action,—in fact water acts as a lubricant, improving their smooth functioning. The rubber surface is cordial to wires and felts, prolonging their life and reducing replacement expense.

They are surprisingly proof against wear and abuse,—years of active service leave no signs of wear, even at the wire edge or under the strap. Accidental dropping or dragging across the machine frame does not damage them.

And these points of Tensilastic superiority are equally true in other positions,—press, couch, wire guide, stretch and carrier.

You owe yourself and your mill a trial installation of Tensilastics,—and a critical, comparative test of their performance. Let us equip a machine or any part of it with Tensilastics,—you'll find it a big stride forward,—in satisfaction, in production, and in profit.

American Wringer Co., Inc.

Rubber Roll Specialists for More Than 40 Years

33 No. La Salle St., Chicago — Woonsocket, Rhode Island — 461 Eighth Ave., New York

Pacific Coast Representative: Walter S. Hodges, Lewis Bldg., Portland, Ore.

CANADIAN FACTORY: FARNHAM, QUEBEC

TENSILASTIC

RUBBER ROLLS

T16

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Carnegie, Pa.—The Superior Paper Products Company, Carnegie, is having plans completed for a new addition to its plant, to be one-story and basement, 80x185 feet, reported to cost over $80,000, with equipment. It is expected to begin superstructure at an early date. Braziell & Anderson, 309 Fourth avenue, Pittsburgh, Pa., are architects.

Philadelphia, Pa.—The Purity Fibre Products Corporation, Packard Building, recently organized to manufacture a special line of fibre baking dishes for pies and other food products, and kindred specialties, has concluded arrangements for a lease of the factory at Ontario and Janney streets, totaling about 30,000 square feet of floor space, and will establish a new plant at that location. Machinery will be installed in different departments at once. The initial plant will have a rated capacity of close to 500,000 fibre plates per day and is reported to cost over $90,000, with equipment. It is proposed to have the works ready for service in August. The new company is headed by F. K. Sheesley, identified with the Vanadium Corporation of America, Inc., Pittsburgh, Pa., who will be president; Edward C. Hassenbruch will be vice-president in charge of sales; and Robert R. Walton, vice-president in charge of production. W. H. Heney will be secretary and S. J. Heverud, treasurer.

Hodge, La.—The Southern-Advance Bag and Paper Company, Hodge, has awarded a general contract to the Ingalls Iron Works, Birmingham, Ala., for structural steel framing for a new addition to its local paper bag and container plant, totaling about 460 tons of material, estimated to cost over $85,000, with equipment. It is proposed to begin superstructure at once. Another contract has been let to the Birmingham Tank Works, Birmingham, Ala., affiliated with the Ingalls company, for tank plates, to be used in connection with the new extension.

Hoboken, N. J.—The Clinton Paper Box Company has leased an entire floor in the building at 307-11 Newark street, near Willow street, totaling about 7,500 square feet of floor space, and will occupy for a new plant. It is proposed to install equipment at once and place the factory in service at an early date. It is understood that the company is now operating a plant in Brooklyn, N. Y., and at a later date it is expected to remove this plant to the new location, where production it is reported, will be concentrated.

Laurel, Miss.—The Masonite Corporation, Laurel, is operating on a good capacity schedule at its local mill, used for the production of wallboard, insulating boards, etc. In connection with its pulp operations, the company is utilizing the clearings from cut-over land, and farming interests in this district have been active in furnishing the company with timber stumps of this kind; when the material is free from bark, a premium of $1.00 a cord is allowed. At one time, the company limited its raw material supply to the short lengths and waste from sawmills, but with decreased supply of such material, the development in the use of other waste timber has been carried out.

Atlanta, Ga.—The Gaylord Container Company, 229 Grant street, S.E., manufacturer of paper boxes, containers, etc., has awarded a general contract to Gilbert Beers, Bona Allen Building, for a new addition to be located on Blasfield avenue, consisting of a main one-story unit, 200 x 220 feet, reinforced-concrete type, and adjoining one-story building, 26 x 50 feet, to be used for office and operating service. The new plant is reported to cost over $75,000, with equipment. It is expected to proceed with superstructure at once.

Portland, Ore.—Willis E. Straight, 1022 Nottingham street, Portland, is at the head of a project to establish and operate a local plant for the production of tannic acids, using hemlock bark as source of raw material. It is proposed to take this waste product from paper mills in this vicinity, cooperating with such plants to develop such waste material into a marketable product. The initial acid plant is reported to cost over $100,000, with machinery. It is understood that a company will be organized to carry out the project.

Fredericksburg, Va.—The new addition to the local mill of the Sylvania Industrial Corporation, manufacturer of cellulose paper specialties of transparent character, previously referred to in these columns, will make a nine-unit plant to be given over to this line of production. The present mill was built last year and consists of six operating units, with boiler plant and auxiliary mechanical structures, located on a tract of over 200 acres of land on the Tidewater Trail, extending to the Rappahannock River. The new addition, for which contract has been let to the Hughes-Foulkrod Company, 1505 Race street, Philadelphia, Pa., consists of three units of thoroughly fireproof character, including cement floors, rolled steel sash, structural steel roofing, etc., and is estimated to cost close to $1,000,000, with machinery. Superstructure will be placed under way at once. The Ballinger Company, 12th and Chestnut streets, Philadelphia, is architect and engineer. Headquarters of the Sylvania company are at 122 East Forty-second street, New York.

Sacramento, Calif.—The Valley Paper Company is planning rebuilding of portion of storage and distributing plant at Front and J streets, recently damaged by fire. An official estimate of the fire loss has not as yet been announced.

Indianapolis, Ind.—The Indiana Wall Paper Company, 27-29 East Maryland street, has leased a building directly opposite at 26-28 Maryland street, and will remodel and improve for a new storage and distributing

FOR EFFICIENT HANDLING OF HEAVY STOCK

A stock pump must be something more than a pump with wide passages and a paddle wheel. Back of its design must be accurate knowledge of every phase of the requirements. Back of its application must be a thorough knowledge of what it will do with any particular stock.

Warren has a pump that will meet your particular requirements and the engineering knowledge to furnish you with correct recommendations.

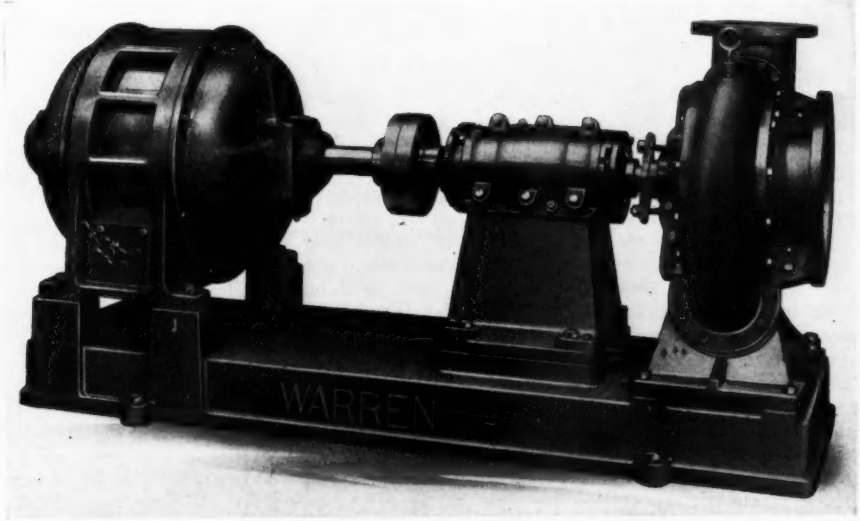
Others have found Warren stock pumps a paying investment. Have you investigated?

WARREN STEAM PUMP CO., Inc.

WARREN - - - - - - - - MASSACHUSETTS

Agencies in all principal cities

WARREN STUFF PUMPS



4900

plant, with headquarters and sales rooms. The structure is expected to be ready for service early in October, when company will remove to the new location and expand facilities. Herbert O. Jose is president.

San Francisco, Calif.—The Pacific Container Co., 1455 Vermont street, manufacturer of paper boxes, containers, etc., is considering the early rebuilding of portion of plant recently destroyed by fire with loss reported at close to $25,000, including equipment and stock.

Old Hickory, Tenn.—The du Pont Cellophane Company, manufacturer of transparent cellulose paper products, is running on a capacity schedule at its local mill and expects to hold to this basis for an indefinite period. A full working force is being employed. The company has work under way on a large addition to its mill at Buffalo, N. Y., to cost over $2,000,000, with machinery. It is a subsidiary of E. I. duPont deNemours & Company, Wilmington, Del.

New Companies, Etc.

Chicago, Ill.—The Lincoln Paper Company, 608 South Dearborn street, has been incorporated with a capital of $100,000, to manufacture and deal in paper products of various kinds. The incorporators are Guy H. Abbott, J. M. Cheney and K. M. Henderson.

Philadelphia, Pa.—The Terminal Paper Company, 401 North Broad street, has filed notice of organization to deal in paper goods of various kinds. Cecil Bentley heads the company.

Chicago, Ill.—The Craftwood Corporation, 2115 Tribune Tower, has been formed with a capital of $5,000, to manufacture and deal in paper and pulp products. The incorporators are J. C. Nichols and R. F. Collins.

Camden, N. Y.—The Northern Machine Corporation has been incorporated with a capital of 250 shares of stock, no par value, to manufacture machinery for the production of paper bags and containers. The company is said to be planning the operation of a local plant for parts production and assembling. The incorporators are William J. Young and Roscoe B. Skinner, both of Camden. The company is represented by Russel S. Johnson, 230 Genesee street, Utica, N. Y., attorney.

Chicago, Ill.—The North Star Strawboard Mills, Inc., Chicago, has filed notice of a reduction in capital from $250,000 to a nominal amount of $1,000.

Plainfield, N. J.—The Court of Chancery has appointed Charles H. Bishop receiver for the Bishop Paper Company, 337 East Fourth street, Plainfield.

CANADA PAPER REORGANIZATION

(Continued from page 15)

soon as the industry here is turning out cellophane in sufficient quantity to fulfill the needs of the Canadian market the duty will be raised to 35 per cent.

Cellophane, a transparent material used in the wrapping of cigars, perfumes, foodstuffs, garments, etc., is a wood pulp product, like artificial silk. The new factory will turn out strips 48 inches wide. Although the number of men employed at the start is estimated at 90, it is thought that this number will rapidly increase. Kindred industries, such as pulp manufacture, chemical production, etc., will be attracted to Three Rivers, it is believed, and will result in employment of many more workers.

Co-operation and assistance of the Shawinigan Water and Power Company and Ald. Ryan of Three Rivers have been found most satisfactory, and the plant, as far as possible, will be self-contained. All steam required will be generated in electric boilers, and all rotating machinery other than air compressors and refrigerating machines will be driven by electric motors.

"The manufacture of cellophane," Mr. Purvis added, "is a logical development for Canadian Industries, Ltd., as many of the raw materials required for the process are already being produced by its various plants, and the additional output will have the effect of strengthening the company's general position. Furthermore, it is a natural industry for Canada, inasmuch as pulp is the main ingredient and the great bulk of other ingredients are manufactured in the Dominion.

"The Canadian consumption of cellophane is now sufficient to permit its manufacture in Canada on the basis of the current selling prices. A survey of the market indicates that there will be a steady increase in the volume of sales, making it possible to give the consumer the benefit of lower manufacturing cost in accordance with their accepted policy of basing selling prices on cost regardless of the protective duty that may be enforced at any particular date."

Commission on Tidewater Power

Announcement has now been made of the personnel of the International Commission representing Canada and the United States which is to investigate and report into the matter of proposed gigantic utilization of waters of Passamaquoddy Bay, which lie between New Brunswick and Maine, most of it being in New Brunswick. The members are: W. A. Found, Deputy Minister of Fisheries, and Dr. A. G. Huntsman, senior director of the Dominion Biological Board, will represent Canada and Henry O'Malley, Commissioner of Fisheries, at Washington, and O. E. Sette, of the United States Bureau of Fisheries, the United States. The main object of the commission will be to enquire into the probable effect of the proposed development on the fisheries of the Bay of Fundy.

The Commission has also associated with it, in an honorary capacity, an advisory committee of scientists including Dr. A. W. H. Needler, of the Biological Board of Canada; Professor F. Ronald Hayes, of the Department of Zoology, Dalhousie University, Halifax; Dr. H. B. Bigelow, of the Woods Hole Oceanographic Institution, Massachusetts, and Professor A. E. Parr, of the Bingham Oceanographic Foundation of Yale University.

The program of investigation is to be decided upon this month. Arrangements for including the services of two other scientific investigators are also being made.

New Paper Box Plant

The Wilson Box and Lumber Company, operating a wooden box mill at Fairville, N. B., has commenced production of paper boxes. Installation of necessary equipment has been proceeding for the past six months.

It is reported that the company is the first wooden box firm to extend its output to include production of paper boxes.

Woodlands' Section Summer Meeting

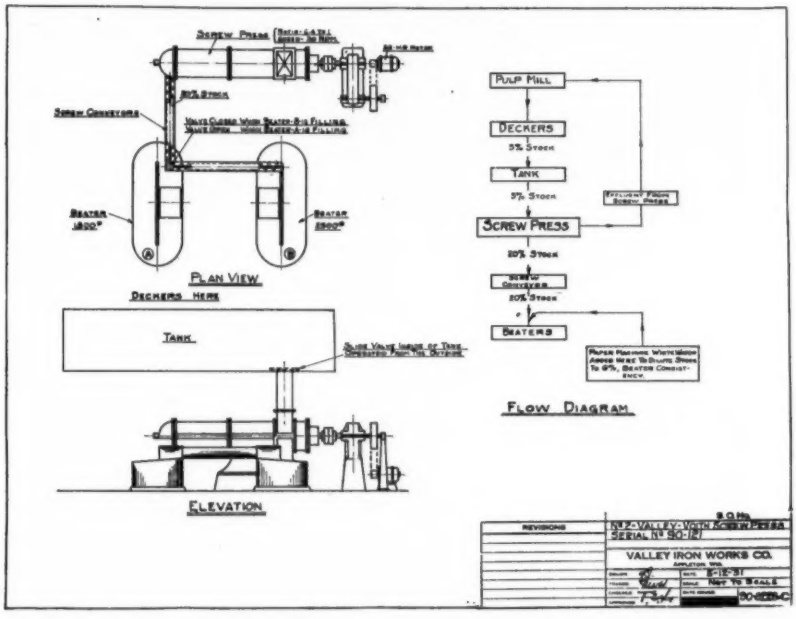
July 24 and 25 have been selected as the dates for the summer meeting of the Woodlands section of the Canadian Pulp and Paper Association. It is proposed to visit the Montmorency limits of Anglo-Canadian Pulp and Paper Mills and to inspect woods operations.

Chutes and flumes will be investigated and demonstrations of new logging machinery will be given.

Dividends Paid By Paper Firms

Dividends paid by paper manufacturing companies in June amounted to $1,577,320, according to the Standard Statistics Company, of New York. Total cash dividend payments made by domestic corporations in June were $412,327,778.

This New Use of the Screw Press



Is Saving One Mill $40 Daily

A VALLEY Whitewater System installed in a mid-western mill as shown in the above cut returned 1,500,000 pounds of white water to the pulp mill. This was replaced in the beaters to dilute stock from 20% to 5% by white water from the Paper Machine. The system was closed, eliminating all losses of size, clay and fibre—as all white water from the paper machines was used.

BY INSERTING A VALLEY-VOITH SCREW PRESS AT THE CORRECT POINT IN YOUR FLOW SHEET, A PLACE CAN BE CREATED FOR THE PRACTICAL RE-USE OF EXCESS WHITE WATER FROM THE PAPER MACHINES OR ELSEWHERE. THIS WATER NEED NOT BE CLARIFIED BY THE USE OF SAVEALLS, AND ITS RE-USE IN THIS MANNER HAS MANY ADVANTAGES.

Write the Valley Iron Works Company, Appleton, Wis., for further details.

VALLEY

Equipment for Paper and Pulp Mills

Plant: Appleton, Wisconsin
New York Office: 350 Madison Ave.
Canadian Representatives: Pulp & Paper Mill Accessories, Ltd., Montreal, Canada

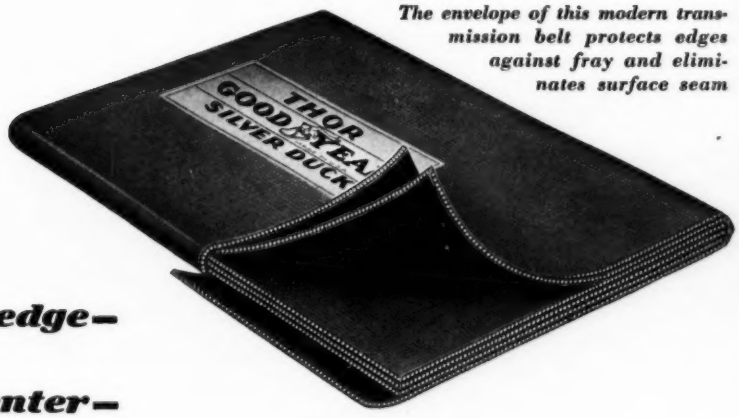
PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

For the Month Ending April 30, and for the Three Months Ending April 30, 1931 Compared with Corresponding Month of Previous Year

IMPORTS—PAPER

	April				Four Months Ending April 30			
	1930		1931		1930		1931	
PAPER AND MANUFACTURES	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	.....	$12,385,763	.....	$11,011,597	.....	$48,514,256	.....	$42,535,124
Printing paper—								
Standard news print ....lbs...free	372,049,528	10,884,882	350,483,368	9,766,563	1,452,563,347	42,357,160	1,336,078,975	37,611,055
Imports from:								
Finland ....lbs.	7,588,478	180,652	9,579,773	216,804	32,842,368	759,453	27,870,630	643,864
Germany ....lbs.	1,896,589	45,294	4,123,214	90,188	7,390,579	181,262	15,914,458	346,687
Norway ....lbs.	2;546,590	60,524	3,337,721	87,855	6,525,262	155,316	16,286,460	415,617
Sweden ....lbs.	8,999,529	207,086	14,030,216	330,805	50,395,099	1,245,701	43,544,391	1,007,703
Canada ....lbs.	347,787,798	10,302,163	310,251,623	8,793,646	1,310,458,999	38,735,190	1,180,388,615	33,778,439
Newfoundland and Labrador....lbs.	3,230,544	89,163	9,160,821	247,235	44,951,040	1,280,238	52,004,449	1,417,015
Other countries ....lbs.	.....	.....	.....	.....	.....	.....	69,972	1,730
All other, n. e. s....lbs...dut.	309,021	15,877	192,648	7,230	939,347	45,496	715,015	25,857
Greaseproof and waterproof papers....lbs...dut.	142,608	54,603	3,952	770	607,127	210,357	120,454	24,871
Kraft wrapping paper....lbs...dut.	761,406	28,703	313,826	14,778	3,230,554	129,819	1,103,773	47,745
Other wrapping paper....lbs...dut.	191,805	12,545	413,208	11,418	790,192	48,272	1,248,230	48,556
Writing and drawing paper, etc.....lbs...dut.	402,456	99,159	205,346	38,441	1,334,124	342,047	841,764	165,658
Writing paper and envelope combinations ....dut.	.....	.....	.....	15,612	.....	.....	.....	56,318
Surface-coated paper ....lbs...dut.	208,075	86,587	80,425	33,896	810,570	314,606	321,047	143,903
Uncoated paper, decorated or embossed..lbs...dut.	.....	.....	11,004	3,056	.....	.....	53,000	12,426
Tissue and similar papers....lbs...dut.	334,815	192,840	.....	.....	1,517,294	783,677	.....	.....
Weighing not over 6 pounds to the ream ....lbs...dut.	.....	.....	146,574	91,518	.....	.....	482,273	332,883
Other ....lbs...dut.	.....	.....	98,390	38,712	.....	.....	256,374	111,035
Paper boards, n. e. s.—								
Pulp board, in rolls....lbs...dut.	5,466,520	123,873	3,480,480	76,374	18,093,151	427,373	10,994,528	241,809
Paper board, pulp board, n. e. s., and card board ....lbs...dut.	696,368	17,613	1,313,513	31,601	5,540,871	133,993	5,065,323	119,101
Leather board, test and wall board..lbs...dut.	130,923	7,587	123,865	8,117	513,191	27,061	496,994	26,783
Cigarette paper, cigarette books, and covers ....lbs...dut.	1,164,617	388,254	2,016,660	532,632	4,299,729	1,491,989	8,312,196	2,157,335
Hanging paper (wall paper)....lbs...dut.	203,816	59,136	60,697	23,372	1,206,895	313,165	653,506	164,385
Duplex decalcomania paper, not printed..lbs...free	30,218	7,326	51,793	12,230	184,374	43,795	155,566	35,036
Paper boxes ....dut.	.....	116,588	.....	92,227	.....	456,682	.....	315,025
Papier-mâché and pulp manufacturers, n. e. s. ....dut.	....	23,594	.....	19,493	.....	241,126	.....	125,418
All other paper and manufactures....dut.	.....	266,596	.....	193,557	.....	1,147,638	.....	769,925
WOOD PULP								
Mechanically ground wood pulp.....tons..free	18,423	472,200	.....	.....	102,877	2,885,535	.....	.....
Unbleached ....tons..free	.....	.....	20,197	482,952	.....	.....	57,889	1,452,775
Bleached ....tons..free	.....	.....	460	10,836	.....	.....	2,681	65,933
Sulphite wood pulp....tons	64,084	3,820,217	54,674	2,854,129	355,596	20,822,490	292,808	14,945,245
Unbleached ....tons..free	37,162	1,884,072	27,432	1,118,517	241,052	12,415,885	181,146	7,991,658
Bleached ....tons..free	26,922	1,936,145	27,242	1,735,612	114,544	8,406,605	111,662	6,953,587
Imports from:								
Finland ....tons	7,931	395,426	8,779	321,724	34,352	1,747,530	31,302	1,329,366
Germany ....tons	5,052	340,709	6,500	363,093	28,343	1,924,303	21,583	1,274,157
Norway ....tons	5,942	369,751	3,111	153,160	22,032	1,444,387	16,721	863,999
Sweden ....tons	13,174	769,336	7,878	428,086	133,790	7,311,831	117,924	5,503,972
Canada ....tons	30,411	1,871,833	24,998	1,452,739	131,508	8,112,789	94,713	5,509,237
Other countries ....tons	1,574	73,162	3,408	135,327	5,571	281,650	10,565	464,514
Sulphate wood pulp, unbleached (kraft pulp) ....tons..free	17,145	908,292	11,974	505,839	125,623	6,398,602	83,877	3,449,895
Imports from:								
Finland ....tons	2,090	92,565	4,535	132,725	13,987	629,813	8,480	262,139
Norway ....tons	1,638	76,558	.....	.....	5,249	256,711	2,417	82,405
Sweden ....tons	6,664	329,228	3,503	123,247	76,171	3,686,962	57,879	2,158,448
Canada ....tons	5,887	373,096	3,885	247,128	28,007	1,725,055	14,610	932,084
Other countries ....tons	866	36,845	51	2,739	2,209	100,061	491	14,819
Sulphate wood pulp, bleached.....tons..free	824	64,625	2,147	169,989	3,767	303,713	14,745	953,439
Soda pulp ....tons..free	.....	.....	413	22,213	.....	.....	1,416	76,306
Other pulp ....tons..free	559	39,038	5	287	1,544	112,534	43	4,068
CRUDE PAPER STOCK								
Rags for paper stock....lbs...free	36,901,498	916,787	14,872,805	178,986	135,455,029	2,905,340	42,607,342	571,873
All other paper stock....lbs...free	27,899,678	398,068	8,204,592	131,261	89,198,652	1,369,045	38,589,920	585,281
CHEMICALS AND OTHER PAPER MAKERS' MATERIALS								
Colors, dyes, stains, color acids, and color bases, n. e. s....lbs...dut.	431,140	470,369	479,173	540,157	1,871,449	2,029,193	1,556,740	1,820,331
Imports from:								
Belgium ....lbs.	3,398	4,081	6,075	7,722	16,860	18,865	18,502	22,113
France ....lbs.	9,662	11,796	6,666	14,103	12,057	16,369	41,538	62,137
Germany ....lbs.	270,729	305,703	216,449	245,983	1,222,889	1,335,115	823,345	929,012
Italy ....lbs.	.....	.....	220	426	.....	.....	11,278	10,814
Switzerland ....lbs.	124,798	128,936	234,237	257,615	572,825	616,111	605,787	739,057
United Kingdom ....lbs.	12,270	12,387	11,729	10,394	25,501	25,619	40,666	38,703
Other countries ....lbs.	10,283	7,466	3,797	3,914	21,317	17,114	15,624	18,495
China clay or kaolin....tons..dut.	26,629	279,946	6,228	51,987	101,044	1,068,355	43,980	396,840
Casein or lactarene ....lbs...dut.	4,204,201	434,055	89,227	4,029	11,381,931	1,306,042	1,464,223	71,638

(Continued on page 34)



The envelope of this modern transmission belt protects edges against fray and eliminates surface seam

Guarded on the edge—

saved in the center—

a drive belt which is doubly protected from trouble

The vacuum pump drive is another one of the drives in your mill that this Goodyear THOR Transmission Belt will safeguard. When specified on mill machinery, stops for readjustments and losses from fray and slip fade out of the picture.

THOR has the advantages of a seamless belt—plus protected edges. Fray is blocked by the stout covering envelope *which is also part of the ply structure of the belt.* Damage cannot creep in from the sides to break down the center. Because the edges of the THOR Belt are firm and strong, the entire width of the belt is applied on the load. There is no middle seam in the THOR Belt—no place to rip.

The envelope construction and the tight-grained fabric make it very strong at the fasteners. Belt stretch is reduced to a minimum.

The G. T. M.—Goodyear Technical Man—will tell you of other Goodyear Mechanical Rubber Goods for the paper industry. Have you heard of Goodyear's new ASBESTOS CORD Steam Hose? Just write to Goodyear, Akron, Ohio, or Los Angeles, California, and ask the G. T. M. to call.

THE GREATEST NAME IN RUBBER

GOODYEAR

BELTS • MOLDED GOODS • HOSE • PACKING

PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

(Continued from page 32)

EXPORTS—PAPER

	April				Four Months Ending April 30			
	1930		1931		1930		1931	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
PAPER AND MANUFACTURES	.....	$2,859,029	.....	$2,044,606	.....	$11,481,524	.....	$7,995,789
Printing paper—								
News print paper ..... lbs.	2,046,119	98,287	1,711,727	55,753	8,953,805	371,831	6,141,672	209,719
Exports to:								
Europe ..... lbs.	81,051	5,573	153,721	7,409	735,227	43,736	655,412	23,378
Canada ..... lbs.	.....	.....	.....	.....	17,351	763	9,482	412
Central America ..... lbs.	128,426	4,755	39,972	1,439	676,796	24,427	381,047	13,065
Cuba ..... lbs.	244,403	10,751	480,908	15,531	1,132,526	46,134	1,362,204	51,754
South America ..... lbs.	172,920	5,815	174,074	5,011	2,107,131	69,077	632,685	20,740
China, Hong Kong, and Kwantung... lbs.	707,218	44,716	.....	.....	1,493,888	85,128	150,267	3,813
Philippine Islands ..... lbs.	603,825	22,469	831,766	25,181	2,415,756	85,328	2,756,619	88,488
Other countries ..... lbs.	108,276	4,208	31,286	1,182	375,130	17,238	193,956	8,069
Book paper, not coated ..... lbs.	3,754,113	250,236	1,836,952	109,887	14,121,041	928,718	6,205,045	403,236
Exports to:								
Europe ..... lbs.	87,830	8,339	19,703	2,299	299,845	27,370	131,828	10,394
Canada ..... lbs.	1,106,786	64,912	484,448	25,234	3,604,521	212,192	1,504,746	92,002
Mexico ..... lbs.	78,552	9,228	41,683	3,898	284,745	29,227	167,413	17,086
Cuba ..... lbs.	199,225	14,532	182,814	12,455	1,380,526	96,264	867,996	56,092
Argentina ..... lbs.	192,043	11,895	162,106	7,636	428,375	28,850	456,878	25,303
Other South America ..... lbs.	231,477	17,637	42,208	3,298	743,050	56,229	344,583	25,183
China, Hong Kong, and Kwantung... lbs.	605,560	37,340	433,113	23,846	3,757,390	229,052	846,606	47,516
Philippine Islands ..... lbs.	688,949	39,977	222,111	13,503	2,005,210	125,396	884,071	61,047
Australia ..... lbs.	215,144	15,820	139,775	8,207	475,467	36,218	472,140	26,334
Other countries ..... lbs.	348,547	30,556	108,991	9,511	1,141,912	87,920	528,784	42,279
Cover paper ..... lbs.	143,728	24,287	160,341	23,896	850,597	137,397	623,008	92,057
Greaseproof and waterproof paper ..... lbs.	404,180	63,375	468,553	88,249	1,119,198	208,072	1,806,398	328,014
Overissue and old newspapers ..... lbs.	17,973,877	148,984	14,843,807	102,314	54,252,369	478,252	56,145,867	414,126
Wrapping paper ..... lbs.	4,276,256	242,567	3,568,260	133,960	17,215,562	1,102,516	11,935,306	601,086
Surface-coated paper ..... lbs.	1,336,344	130,533	377,467	43,338	3,607,340	389,925	2,178,502	231,725
Tissue and crepe paper ..... lbs.	415,532	79,074	331,036	52,311	1,956,655	343,704	1,150,793	185,339
Toilet paper ..... lbs.	666,041	74,565	700,643	77,702	2,574,118	284,737	2,527,336	284,746
Paper towels and napkins ..... lbs.	371,131	40,412	327,559	31,680	1,405,963	162,110	1,241,387	118,763
Boxboard (paperboard and strawboard) ..... lbs.	4,505,951	117,344	4,042,152	91,853	20,731,534	523,073	18,678,863	427,744
Bristols and bristol board ..... lbs.	120,545	15,069	201,386	19,085	941,395	84,817	749,971	77,043
Other paper board ..... lbs.	2,847,791	140,597	2,882,253	114,980	12,585,553	638,977	9,487,042	435,524
Sheathing and building paper ..... lbs.	2,260,386	71,788	1,859,707	49,185	6,434,598	247,552	6,480,790	187,717
Fiber insulating lath or board ..... sq. ft.	6,560,286	189,927	4,036,063	124,209	22,657,033	714,214	13,380,544	433,669
Wall board of paper or pulp ..... sq. ft.	2,697,002	90,299	1,869,597	57,435	11,474,932	364,884	6,263,218	209,257
Blotting paper ..... lbs.	196,145	24,749	253,334	26,302	816,216	137,677	622,717	92,377
Filing folders, index cards, and other office forms ..... lbs.	155,386	50,633	117,440	39,722	1,108,645	133,751	811,770	90,751
Papeteries (fancy writing paper) ..... lbs.	40,291	10,612	27,957	7,262	568,241	200,313	556,072	169,563
Other writing paper ..... lbs.	2,032,755	202,328	1,419,326	153,744	211,463	45,532	95,982	24,638
Paper hangings (wall paper) ..... rolls	289,560	54,847	390,664	39,835	7,605,161	798,190	5,111,675	501,432
Paper bags ..... lbs.	626,551	55,611	936,697	67,402	1,869,886	279,433	1,774,246	210,728
Boxes and cartons ..... lbs.	2,611,922	137,427	1,200,145	78,881	3,140,800	272,485	4,267,825	304,658
Envelopes ..... lbs.	220,125	35,410	172,568	23,672	8,521,101	495,236	4,647,953	315,221
Vulcanized fiber sheets, strips, rods, and tubes ..... lbs.	396,065	97,753	291,363	70,623	1,700,252	421,714	1,140,803	284,786
Cash-register and adding-machine paper ..... lbs.	443,056	37,799	548,208	44,893	1,555,508	144,643	2,382,199	189,438
Other paper and paper products	.....	374,516	.....	316,433	.....	1,591,842	.....	1,172,432
WOOD PULP AND PAPER STOCK								
Sulphite wood pulp ..... tons	2,644	152,122	3,628	170,542	8,703	491,471	10,384	505,868
Soda wood pulp ..... tons	377	29,917	120	8,956	1,129	88,832	468	34,669
Other wood pulp ..... tons	1,788	70,168	368	5,368	3,775	151,762	532	17,898
Rags and other paper stock ..... lbs.	4,708,209	77,176	6,167,048	64,409	22,475,160	340,459	20,493,220	221,565
PAPER AND PULP MILL MACHINERY								
Paper and pulp mill machinery	.....	194,485	.....	145,567	.....	982,591	.....	513,477

Paper Box Companies Merge

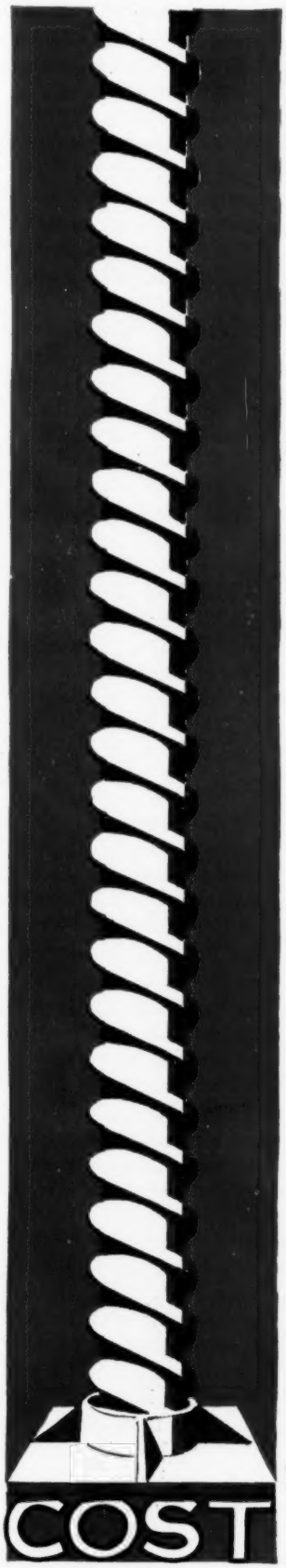
[FROM OUR REGULAR CORRESPONDENT]

EARLVILLE, N. Y., July 14, 1931—Under an agreement reached this week the Niagara Falls plant of the Hinds Paper Box Company is to form an alliance with the Earlville Paper Box Company in this village. The merger plans call for the removal of the equipment from the Niagara Falls plant to this place and this task has already been started. The installation of the additional equipment will allow a one hundred per cent increase in production and the doubling of the present working force. The Niagara Falls plant has been under the management of C. P. Upton while W. J. Upton is superintendent of the local plant. The terms of the merger will allow both brothers to work in conjunction with each other in conducting operations in this village. Both concerns have been turning out boxes, trays and various other receptacles used for the display of silverware.

News Print Improvement Predicted

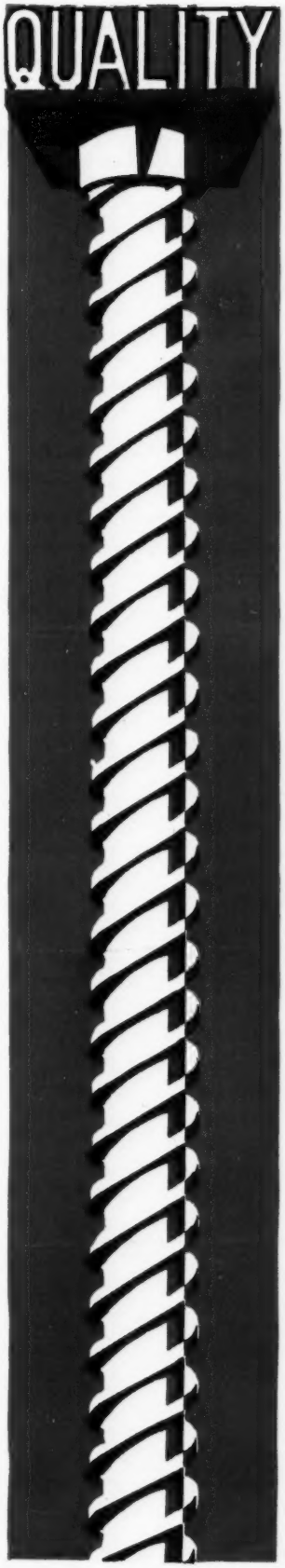
[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., July 13, 1931—A hopeful view of the future of the news print industry was expressed by the Hon. James Lyons when addressing the papermakers' union at Sault Ste. Marie, as one who had accompanied their delegation to Toronto to place the case of the Abitibi unemployed before the Government. No definite announcement was made by Mr. Lyons regarding the opening of the mill, although he expressed the hope that the situation would be better during the winter months. The meeting asked the members of the committee to continue their work. The fact that when the paper mill at the Sault first opened no definite agreement was made asking for a certain quota of paper to be manufactured was mentioned by Mr. Lyons. The agreement made in 1898 merely required the mill to grind fifty tons of pulp a day for forty years.



Keep Cost DOWN
Keep Quality UP

A GOOD Trick
. . . and YOU *can do it*



Anybody can turn out quality papers if production costs and profits can be ignored . . .

Anybody can cut costs if quality need not be considered . . .

But it takes clever management, in these battle-ridden days of tight markets and close buying, to keep quality up, costs down and dividend checks on an even keel . . .

Clever management,—and equipment that is tuned up to the last word in time and labor saving, economical production . . .

Oh yes, we know that boards of directors aren't taking kindly to new equipment purchases. But that isn't absolutely essential. It's the thing to do, if you have the "nerve",—but there's another way that isn't nearly so expensive . . .

That is,—bring your present equipment up to date. There's an amazing lot of machinery in the mills that hasn't had so much as a new hair ribbon since before the war. Good machinery, too,—in its day—but just hasn't kept step with the times . . .

Let a Bagley & Sewall service man look it over,—show you where it can be improved,—what it needs. A new drive installation, perhaps,—or a remodeled or repaired part,—an investment in readjustments that will pay big dividends. You don't have to take his advice, but if you do, as others have done, we'll be glad to work with you all along the line. And we'll all be happier,—and that much nearer renewed Prosperity. Write and say when.

The Bagley & Sewall Co.
Watertown, N. Y.

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CANADIAN I. P. DEVELOPMENTS

The annual report of the Canadian International Paper Company for the year 1930, made public a few days ago, describes the development of an extra high grade of rayon pulp at the company's Kipawa mill, and the material reduction of operating costs at its Three Rivers and Gatineau news print paper mills which is continuing this year.

As a result of several years' work in its research laboratories at Hawkesbury, the company has developed a new grade of rayon pulp which was placed on the market during 1930 under the trade name of Kipawa "Extra." This new pulp produces a rayon of greater whiteness, better dyeing qualities, and greater strength than is commercially possible with the grades of pulp in general use. As a result, Kipawa "Extra" has been well received by the rayon industry and practically all of the company's customers have now adopted this new quality.

During 1930 consumption of bleached sulphite pulp by manufacturers of rayon and paper decreased, while productive capacity of the pulp industry increased. This resulted in lower prices and some curtailment of production at the company's Kipawa and Hawkesbury bleached sulphite mills. Despite these unfavorable factors, however, the company maintained its relative position in the bleached sulphite pulp markets.

The company's output of news print during 1930 amounted to 404,555 tons as compared to 397,242 tons in 1929. There was some curtailment in operating time at both the Three Rivers and the Gatineau news print mills, but this was more than offset by increased operating efficiency. The International Paper Company is concentrating its production of news print in the Canadian International Paper Company mills, and curtailing production at its higher cost United States mills.

There were no important changes during 1930 in the Company's timberland holdings which now include over 18,000 square miles (nearly all held under Crown licenses) bearing an estimated stand of over 51,000,000 cords of pulpwood.

Losses from fire during the year were negligible in spite of unusual hazards caused by the dry spring and fall. This was due largely to the effective fire prevention work which is carried out by the company alone over its timber areas on the Gatineau and Upper Ottawa Rivers, and in cooperation with governmental agencies and associations of landowners in other areas.

Operating efficiency of the company's mills continues to improve and further reductions can be anticipated in costs during 1931. Furthermore, during the early part of this year there has been a substantial increase in activity by rayon manufacturers who use Kipawa pulp. On the other hand, the decline in news print consumption which took place in the last six months of 1930 is still unrelieved by any definite upward trend and a number of important news print manufacturers have recently announced a reduction in the price of news print retroactive to January 1, 1931.

For the first five months of this year, the company's earnings, after making the deductions for the five months in connection with this news print price cut, are approximately equal to the earnings for the corresponding period in 1930, the decrease in selling price being offset by the substantial reduction in production costs and in overhead expense.

SELLING POLICIES

Statements from Mr. S. L. Willson, president of the American Writing Paper Company regarding the paper business usually deserve thoughtful consideration, as they express ideas gained from a wide experience in both the selling and manufacturing ends. This is especially true of the following statement in which Mr. Willson expresses himself on a timely topic of great importance:

"From time to time I have taken the liberty of expressing opinions regarding merchandising methods and price tendencies. The seller of any commodity has the right to set a price on his product. He also has an obligation to himself; to the people for whom he stands sponsor, and for the particular industry of which he is a part, to set that price at a figure which will show, under normal operating conditions, a reasonable profit for those who are to be affected through the establishment of such price.

"Selling policies during the past year have demonstrated a non-observance of this sound merchandising principle and an utter disregard, in many instances, of the competitive rights of others. We see many instances of paper and paper products being sold below cost—even in the face of known facts establishing such a condition. A policy of deliberate continuous selling at below cost is abrogating the rights of others—it is more—it is taking from another that which belongs to him. It's a species of larceny.

"It is destructive of principles, profits and progressiveness. Buyers have a right to a fair price, but they are not

entitled to any price which, under usual production conditions, shows a loss to the seller. Too many manufacturers today attempt to operate full time, even with facts before them that the industry is greatly over-equipped—and general business conditions unfavorable. They cut prices in some cases, below cost simply to secure more than their fair share of business. It is usually a failure, because others, as a rule, do not sit idly by and see their business diverted elsewhere. The result is a general cut in prices to meet destructive competition.

"Paper mills are, as a whole, making little or no profit. Many are losing money. Notwithstanding that condition, prices have recently been reduced on grades which are made from low priced sulphite pulps. We recently were compelled to meet prices on sulphite bonds. We are now confronted with a like situation in connection with another grade, and have been compelled again to meet competitive price conditions.

"While it is a fact that some grades of raw materials are abnormally low, there are no reasons to assume they will remain at present levels. In the past when advanced costs for raw materials prevailed, mills have absorbed those additional costs in order to maintain stability of prices—one of the most potent factors in re-establishing confidence. A cut in price always acts as a deterrent to business. No additional business is secured. Such action of competitors results in leaving prices upon the same relative basis,—with margins of profit to the merchant, manufacturer, converter and printer reduced, or their losses increased—and a mental attitude of—What next?"

Paper Board Men to Meet

The Paperboard Industries Association will meet Wednesday, July 22 and Thursday, July 23 at the Hotel Champlain, Bluff Point-on-Lake Champlain, N. Y. Bluff Point is on the main line of the Delaware and Hudson Railroad, about 167 miles north of Troy, N. Y., and about 3 miles south of Plattsburg, N. Y. While there is a local railroad station (Cliff Haven) located near the hotel, on account of better train service it is suggested that members will find it more convenient to purchase railroad tickets to Plattsburg, N. Y., taking the hotel bus or a taxi from Plattsburg to Hotel Champlain.

Various meetings are scheduled to be held, as follows: Folding Box Group, Vice President, E. Victor Donaldson, presiding and Paperboard Group, Vice President, Henry D. Schmidt, presiding, on Wednesday.

The Container Group, Vice President, R. H. Dollison presiding and general meeting of the three groups in joint session, president J. H. Macleod presiding, on Thursday

The Sales Promotion Committee, Statistical Committee, Standardization Committee and the Executive Committee will meet on Tuesday.

Hotel Champlain is surrounded by excellent facilities for recreation, including an 18-hole golf course, a 9-hole court golf course, bathing beach, etc.

In connection with the meeting, a golf tournament is being arranged by the golf committee, which consists of M. M. Madson, chairman, and J. J. Brossard and C. G. Maher. Notices regarding the tournament have been sent to all members by Chairman Madson. The companies which supply the materials used by the paperboard, container and folding box industry have been invited.

Dexter Co. Wins Parchment Suit

WATERTOWN, N. Y., July 11, 1931.—The Federal Trade Commission has denied the complaint against the Dexter Sulphite Pulp and Paper Company claiming that the paper manufacturing concern was using the term parchment unjustly and seeking to bar the use of the word in connection with its product, according to word received here by Attorney Charles A. Phelps, counsel for the Dexter concern.

The decision is a distinct victory for the Dexter Sulphite and Paper Company and Attorney Phelps, the complaint having been made by the federal government. The government contended that the word "parchment" implied use of the skin of animals in the manufacture of paper and that this was not used by the Dexter corporation.

The paper company has been producing a parchment paper made by special formula through the use of chemically treated wood pulp and officials of Dexter Sulphite held that the term "parchment" had been in use for the past sixty years in this connection and that it was not illegal in connection with their product.

The case had been argued for some time and the decision of the federal trade commission was made known through Attorney Phelps.

Unloading Russian Pulpwood

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., July 13, 1931.—The unloading of the initial shipment of imported pulpwood was started here this week and a long line of freight cars is being used in the transportation to mills of the International Paper Company at Corinth and other Northern New York points. The Steamship *Minnequa* was the ocean vessel which brought the cargo of about 3,000 tons of pulpwood to the local port terminal after being held in quarantine in New York harbor for several days to await a ruling on its entrance to this country. The size of the cargo was shown clearly by the large deckload of timber for which no available space could be found in the body of the ship. Contract made by the International Paper Company calls for the arrival of from twelve to fifteen similiar shipments during the remainder of the year. The vessel came up the Hudson River on low tide and no difficulty was experienced on the voyage inasmuch as the deepened channel now permits ocean vessels to arrive in safety. The ship was loaded at Leningrad, Russia, about a month ago and other cargoes are expected to follow within the next week. Facilities at the Port of Albany have been enlarged to take care of the pulpwood shipments and a large force of stevedores are being steadily employed.

Paper Men in New Mining Concern

[FROM OUR REGULAR CORRESPONDENT]

GOUVERNEUR, N. Y., July 13, 1931.—Articles of incorporation were filed this week by the Adirondack Mining Company which has a number of prominent paper mill men amongst its stockholders. The new concern is capitalized at $100,000 and was organized principally to carry on development of talc deposits in this district. Joseph J. Wallace, general manager of the International Pulp Company, and Mark S. Wilder, prominent paper manufacturer of Watertown, are among the principal stockholders responsible for its organization. Other directors include C. H. Sprague, P. H. Nelson and B. H. Sprague, all of Gouverneur. The company already controls large deposits of talc adjoining the property of the International Pulp Company.

Leading

PAPER MILLS are installing the DELTHIRNA System because

Delthirna is a cold, continuous method of making rosin size.

Eliminates all deposits in tanks and pipe lines.

Lessens the filling up of felts and wires.

Thirty per cent savings in sizing cost guaranteed.

Higher quality product assured through cleaner stock.

Improved color assured because rosin is not degraded by heating.

Rosin savings due to perfect dispersion of rosin in the size.

No rosin specks due to non-presence of large particles in solution.

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AMERICAN DELTHIRNA CORPORATION

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

100 Per Cent Ground Wood For News Print*

By W. J. Garding[1] and O. L. E. Weber[2]

The use of sulphite in news pint, as we all know, is primarily to supply enough fibers of sufficient length to hold the sheet intact, or to add the required strength to permit it to run over the paper machine and through the printing presses without breaks or other difficulties. Other things being equal, and within certain limits, the greater the per cent of sulphite used, the stronger are the pop, tensile and tearing factors. However, as the per cent of sulphite is increased the transparency and strike through become more apparent. News print with little strike through and sufficient strength to run through the presses without breaks is more important to the news paper publisher than paper having more than the proper strength but exhibiting greater strike through; therefore to determine the practicability of making a sheet with high ground wood content, a number of trials were made by the Watab Paper Company at different times during the past three years using the so-called "Fish Process" as a means of substituting a longer ground wood fiber for sulphite.

The method used was to fill an unlined cylinder with pulpwood under 8 inches in diameter, in 2, 4, or 8 ft. lengths, rough or barked, subject to a vacuum, completely submerged in water containing a small amount of alkaline chemicals, introduce top pressure and bring up temperature at comparatively low pressures. After boiling for a number of hours the liquor is discharged into a receiver for the next batch, vacuum again applied, and wood discharged ready for grinding. A final pH of about 7.5 is maintained by the addition of caustic potash and soda ash to each cook.

The grinders were of the ordinary three pocket type, 16-inch cylinders, pockets 15 inches wide, wood length 24 inches, and pressures from 40-50 pounds, temperatures about 150 deg. F., rotary speed about 210 r.p.m. on a 54-inch medium grit stone, with freeness of pulp to suit the paper machine. The burrs were of different types, with a final use of from 1 to 1¼ inch leads, Nos. 6, 8, and 10.

With proper attention to jigging, the fibers on the blue glass appear somewhat longer than those of untreated wood ground in a similar manner.

Trials For Strength

The first run over the paper machine was made during the summer of 1927 starting with a furnish of 22 per cent sulphite. After a half hour run, the sulphite was cut to 17 per cent, then to 12 per cent, again to 7 per cent, and as tests showed no decrease in pop the run was continued over 10 or 12 hours without sulphite with no more breaks on the machine than with the usual amount of sulphite.

On August 11, 1927, the St. Paul Dispatch ran one or more rolls of 28-pound no sulphite paper in their regular edition without a break. Tests on this paper were: 8 point pop, 17½ x 14 Elmendorf tear, using 16 sheets per loading. No tensile test was made.

On Sept. 14, 1927, a run was made on 32-pound news having a fiber furnish of 6½ per cent sulphite, and 46¾ per cent each of treated spruce and treated jack pine ground wood. The machine speed was 610 feet per minute. The tests showed 9-10 points pop, and 23 x 18 tear.

On Feb. 3, 1930, two 68-inch, two 51-inch and one 34-inch rolls were made at a machine speed of 600 feet per minute on the following furnish and tests:

Furnish:	Per cent
Sulphite	0
Groundwood (treated spruce)	96.5
Clay	1.3
Alum	2.2
	100.0
Color: .48 oz. Violet, .16 oz. Knod. B.	
Tests:	
Mullen	10.3
Tear	18½ x 14
Tensile	11.3 x 6.8
Moisture	8 per cent
Basis weight	32 pounds
Relative humidity	23.2 per cent at 86.6 deg. F.

During the week of July 14-19, 1930, about 250 tons of paper containing no sulphite were made on No. 1 machine running at 600-620 feet per minute with practically no breaks on the following furnish and tests:

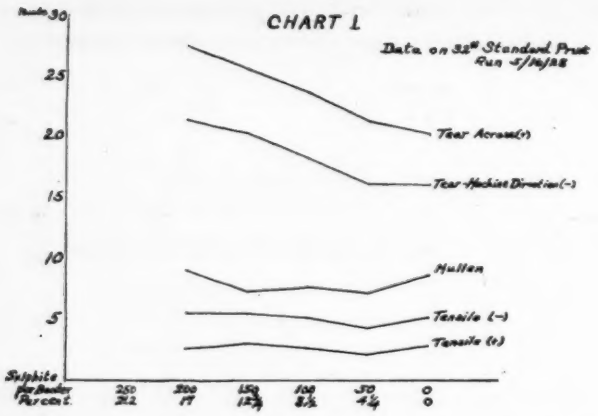
Furnish:	Per cent
Sulphite	0
Groundwood (treated spruce)	92.2
Clay	5.2
Alum	1.6
Plus color	
	100.0
Tests:	
Mullen	12.4
Tear	24 x 18
Tensile	12.4 x 6.9
Gauge	.0034
Basis weight	32 pounds
Moisture	6.2 per cent
Color	Dull
Relative humidity	37.2 per cent at 88.7 deg. F.

This paper was used by the Minneapolis Tribune in their regular afternoon and Sunday editions and ran through their presses very satisfactorily with the criticism, however, that color was too low or dull, undoubtedly due to use of two year old wood, water soaked, and treated at too high temperatures.

On July 29, 1930, 24 rolls were made from ground wood using new wood and treated at a lower temperature, which showed a decided improvement in color. This paper was printed in the July 31 edition of the Minneapolis Tribune, and by request of J. H. Slater 100 copies were distributed at the Fall Meeting of

* Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 17-19, 1931.
Contribution of the Mechanical Pulping Committee.

[1] Junior member TAPPI, chemist, Watab Paper Co., Sartell, Minn.
[2] Member TAPPI, vice president and general manager, Watab Paper Co.



the Technical Association at Erie, Penn., Sept. 3-4-5. Furnish and tests on this run were:

Furnish:	Per cent
Sulphite	0
Groundwood (treated spruce)	92.30
Clay	5.14
Alum	2.56
	100.00

Color: .8 oz. Brilliant Blue, .16 oz. Rhod. B.

Tests: (6 average samples)	
Mullen	10.7
Tear	19.7 x 16.3
Tensile	9.55 x 6.25
Gauge	.0034
Basis weight	32 pounds
Moisture	5.1 per cent
Relative humidity	33 per cent at 89.4 deg. F.

The general characteristics of paper made with a decreasing sulphite furnish are shown by the following data taken on May 16 1928, and illustrated by Chart 1.

DATA ON 32 POUND STANDARD PRINT. RUN MAY 16, 1928

Sulphite per beater.	250	200	150	100	50	0
Sulphite, per cent.	21.2	17	12¾	8½	4¼	0
Mullen	8.5	9.03	7.34	7.07	7.06	8.62
Tear	22.3	27.5	25.7	23.7	21.03	20.08
Tear	19.1	21.2	20.2	18.3	16.07	16.04
Tensile	4.7	5.5	5.5	5.1	4.01	5.05
Tensile *	2.4	2.7	3.0	2.8	2.04	2.96

* Strips—½ inch wide.
Tests at Relative Humidity 30.6 per cent at 85.6 deg. F.

TESTS OF POP, TEAR, TENSILE, GAUGE, AND BASIS WEIGHT OF VARIOUS PRINTED NEWSPAPERS AND PUBLICATIONS

	Pop	Tearing strength	Tensile strength	Gauge	Basis weight	Issue of
A. N. Y. D. Mirror	7.3	23.5x20	.....	.....	32.9	.....
B. N. Y. D. News (Tab)	10.8	19 14	11.7x5.4	.0035	32.9	.....
C. Chicago D. News (Roto)	9.8	26 x30.5	11.2x7.5	.0029	32.9	7- 8-29
D. N. Y. Times (Mag. Sec.)	11.8	23.5x20.5	11.7x7.4	.0039	32.9	7-14-29
E. N. Y. Times (News)	9.8	20.5x17.5	10.1x5	.0035	30.2	7-14-29
F. N. Y. Times (Roto)	11.5	25.5x20	13.1x7.3	.0026	38.5	7-14-29
G. Sun News (Tab)	10	19.5x15	11.7x5.6	.0033	31.5	7-14-29
H. N. Y. D. Inv. News	11.5	19.0x15	12.7x6.5	.0032	35.7	7-13-29
I. Wall St. Jour.	11.6	24.0x19	12.0x6.8	.0037	35.0	7-13-29
J. Buffalo E. Times	10.1	22.0x14	10.9x5.4	.0037	32.9	7- 9-29
K. Toronto E. Tel.	9.3	19.5x17	9.8x6.7	.0032	32.6	7- 9-29
L. Montreal Gazette	9.1	20.0x16.5	11.3x6.3	.0032	31.1	7- 9-29
M. Toronto Globe	9.7	22 x17	9.7x5.8	.0035	33.2	7- 8-29
N. Toronto D. Star	7.4	22.5x17	9.8x4.9	.0036	31.6	7- 9-29
O. Toronto D. Mail & Em.	10.2	22.5x17	12.9x6.8	.0037	31.5	7- 8-29
P. Pittsburgh P. Gaz.	8.5	19 x14	11.7x5.5	.0031	31.6	7- 9-29
Q. Chicago D. Trib.	8.8	21 x15	9.6x5.4	.0035	31.6	7- 8-29
R. Detroit F. Press	9.6	20 x16	12.3x6.5	.0031	31.1	7- 8-29
S. Detroit News	10.0	20 x15	10.3x5.0	.0033	31.75	7- 8-29
T. News of the W.	13.3	21.5x17	13.2x7.1	.0032	32.7	6-29-30
*U. Minneapolis Tribune	12.2	20.5x16	11.9x7.4	.0037	33.0	7-20-30
V. Minneapolis Tribune	8.3	17.5x14	9.5x5.0	.0039	33.0	5-28-30
W. N. Y. Times	9.8	19 x14.5	9.8x5.5	.0032	30.0	7-29-30
X. N. Y. Times	9.5	20.5x18.5	9.3x6.1	.0031	31.5	6-19-30
Y. Chicago D. Trib.	11.0	20 x14	11.3x5.7	.0034	30.5	7-31-30
Z. Chicago D. Tribune	10.2	21 x17.5	11.8x6	.0037	31.0	7-10-30

* No sulphite.

	Mullen	Tearing strength	Tensile strength	Basis weight	Gauge	Issue of
*IA. Minneapolis D. Star	9.0	18 x14.5	9.3x5.6	28.5	.00355	1-14-31
*JA. Minneapolis Tribune	10.3	19 x13.5	10.6x6.9	30.0	.00325	1-14-31
*KA. St. P. Dispatch	10.4	18 x13.7	10.6x5.7	30.0	.00345	1-15-31
*LA. Minneapolis Journal	9.8	19 x15.5	10.5x5.7	32.0	.00345	1-21-31

* No sulphite.

Tests at relative humidity 42 per cent @ 96.9 deg. F. Except IA, JA, KA and LA which were 27 per cent @ 89 deg. F.

A quantity of no sulphite news print was made on Jan. 10, 1931, and the rolls run in the regular edition of the Minneapolis Daily Star, Minneapolis Tribune, St. Paul Dispatch, and Minneapolis Journal, with tests as shown on the last four of the above list, and furnish as follows:

Furnish:	Per cent
Sulphite	0
Groundwood	98.4
Clay	0
Alum	1.6
	100.0

Color: .80 oz. P.B.R., .32 oz. Rhod. B.

Publishers and Press Room Comments and Reports

"Here is a record of our run today on the new paper, which Mr. Weber watched for a while:

Roll No.	Weight	Papers run	Breaks
1	1200	10,450	None
2	1235	10,730	None
3	1270	11,130	None
1	580	9,930	None
2	575	10,240	None
3	600	10,280	None
Gross	5460		

Cores and core waste	51 pounds
Wrappers	65 pounds
Other waste	15 pounds
Total waste	129 pounds

Net weight 5,331 pounds; should weigh 5,407 pounds; 76 pounds underweight.

The average speed of the press was 36,000 per hour."

Yours very truly,

JOHN THOMPSON (The Minneapolis Star). (January 14, 1931)

"The paper received from the Watab Paper Company was run Jan. 15th. On one of the rolls we had two breaks due to a tight edge. Other rolls ran without breaks.

We did not notice any difference in the printing—it looked the same as on our regular stock."

Yours very truly,

By A. J. SCHULTZ (January 21, 1931).
Dispatch Pioneer Press Company.

"Mr. Murphy did not state whether you wanted a report of the recent trial run of the new process print paper, nevertheless, I thought you would be interested in knowing that the six rolls run through the machines without a break, took the ink well, and gave the pressmen no trouble whatsoever.

Yours very truly,

G. B. BICKLEHAUPT (The Minneapolis Journal) (January 26, 1931).

"We ran the six rolls of paper made by the Fish Process on Wednesday of this week. This paper was more opaque than our regular stock which contains the average amount of sulphite.

The printed sheets from these six rolls showed practically no strike through, which fact I presume is partially explained by the superior opacity of this stock over our own stock, which contains the average amount of sulphite.

We ran these rolls at the maximum speed of the presses and experienced no web breaks so that the tensile strength seemed equal to our regular stock.

We ran some rolls in October made by the Fish Process, containing no sulphite, with the same experience as on the rolls above mentioned.

During the months of July and August, we ran our evening edition for two consecutive weeks on the paper you furnished us, made by the Fish Process, containing no sulphite. During these two weeks we ran our presses at maximum speed and on many runs experienced no web breaks and on the whole we experienced less web breaks than on our regular stock.

Without acquainting our advertising department with the fact that we were using a different paper than our regular stock, all of our staff interviewed volunteered the information that we were printing a better paper than usual and remarked that there appeared to be no strike-through.

We in the mechanical department have reached the conclusion that this paper stock takes the ink better, which enables us to carry more ink and thereby print a more contrasty paper.

Very truly yours,

J. E. MURPHY, (The Minneapolis Tribune) (January 17, 1931).

On January 26, 1931, another run of paper containing respectively no sulphite and 20 per cent sulphite, was made for the purpose of comparing a sheet of standard news print with an all ground wood sheet. Table A shows furnish and strength tests.

TABLE A (RUN NO. 141)

Ref. No.	.007	.005
Fiber Furnish:		
Sulphite, per cent	20	0
* Groundwood, per cent	80.0	100.0
Clay, per cent	0	0
Mullen	14.1	9.8
Tear	21.5 x 17	21.8 x 15.8
Tensile	12.5 x 6.2	11.6 x 6.7
Gauge	.00308	.00343
Basis weight	32.0	32.0
Moisture	7.3	7.2
Ash, per cent	.7	1.3

* Treated wood.
Relative humidity—32 per cent at 82 deg. F.

Printed sheets illustrating results of factors in question may be had by applying to the Secretary of the Technical Association.

Power Consumption:

While power determinations are not complete, indications as to power required on both raw and treated wood under as near similar conditions as to wood size and stone treatment are as follows:

	Raw	Treated
Cords of 2-foot wood	1	1
Grinding time	2 hrs. 1 min.	2 hrs. 4 min.
Freeness	112	147
Cylinder pressure	56	62
Number of cylinders	4	4
Size stone	27 in. x 60 in.	27 in. x 60 in.
R.p.m.	240	240
K.w. hours	1300	1300
Hp. per cord	68.5	68.5
Type burr	8 x 1¼	8 x 1¼
Average diameter wood	6 inches	6 inches

Yield tests indicate practically no difference in the quantity of bone dry pulp obtained per cord of treated and untreated wood. The following figures are the results of a test on 2 cords of each:

	Pounds of bone dry pulp	Pounds per cord	Number of sticks
Raw spruce	5063	2536	774
Treated spruce	4987	2498	786

Steam flow meter over a considerable length of time recorded between 600 and 700 pounds per cord of wood treated.

Instruments for Paper Testing

Pop: standard Mullen tester, average 5 single sheets (hand operated).

Tear: Elmendorf tearing tester, 16 sheets to single load (2 tests each way).

Tensile: Amthor tensile tester. 1 sheet to single load (two tests each way).

Thickness: thickness gauge, division in 1/10000 inch (average 5 sheets).

Weight: special Toledo basis weight scale.

Humidity: Relative Humidity: see test data.

New TAPPI Members

Theodore A. Burdick, manager of the Power Division of Alco Products Inc., New York is a 1914 graduate electrical engineer of Case School of Applied Science, Cleveland, and since 1914 he has been employed as a design engineer by such companies as Proctor & Gamble Company, Cincinanti, Ohio, Management Engineering and Development Company, Dayton, Ohio, Fairfield Paper Company, Columbus Railway Power and Light Company, and Texas-Louisiana Power Company. In 1930 he read a paper before the A. S. M. E. entitled, "Economics of the Use of Diesel Engines for Electric Power Generation."

Leo Fleischer is chemist of the Lock Haven, Pennsylvania mill of the Castanea Paper Company and was formerly chemist for the Paul A. Sorg Paper Company of Middletown, Ohio, and assistant superintendent of Papierfabrik Fleischer at Eislingen, Germany. He attended the Koethen-Auhalt Technical School and the University of Cincinnati.

Arnold Hegg graduated from the University of Washington in 1929 and has since then been employed as chemist by the Grays Harbor Pulp and Paper Company, Hoquiam, Washington.

Guy F. Mitchell has been sales engineer of the Hesse-Ersted Iron Works, Portland, Oregon since 1927 and for the previous 30 years has been engaged in the design, construction, operation and sales for such companies as Allis-Chalmers Manufacturing Company, Hesse-Martin Iron Works and the Sumner Iron Works.

Harold A. Norseen, chemist at the Johnsonburg, Pennsylvania mill of the New York and Pennsylvania Company graduated from the New York State College of Forestry in 1931. He has been employed for brief periods as a draftsman for the Champion Fibre Company, Canton, N. C. and in the technical service department of the Mead Corporation at Chillicothe, Ohio.

Peter S. Sinclair, treasurer of the Sinclair Company Inc., Holyoke, Massachusetts, makers of dandy rolls with whom he has been associated for eleven years, previous to which he was an apprentice of Buchanan and Bolt Company in Holyoke.

Charles R. Van de Carr Jr., vice-president of the Mead Corporation and the Mead Paperboard Corporation, Chillicothe, Ohio, graduated as a civil engineer from Rensselaer Polytechnic Institute in 1910. For eleven years he was superintendent of the Laurentide Company at Grand Mere, P. Q. two years manager of the Ste. Anne Paper Company at Beaupre, P. Q. and one year manager of Fraser Paper Company, Madawaska, Maine.

Light Effect on Rosin in Paper

WASHINGTON, D. C., July 14, 1931—As a part of extensive researches on the preservation of written and printed records, the Bureau of Standards, has obtained additional information on the relation of rosin to the yellowing of paper with age. In this connection the Bureau says:

The discoloring effect of light upon rosin, and compounds of rosin formed during the rosin sizing of paper was studied, both in air and in an atmosphere of nitrogen, a relatively inert gas. The source of light used was an inclosed carbon arc. The various grades of commercial rosin used in paper; bleached rosin; resinates of sodium, aluminum, and iron; and rosin size contaminated with ferrous and ferric iron, were exposed to the rays of the arc in sealed quartz tubes. The bleached rosin was included because of a patented bleaching process claimed to prevent discoloration of the rosin by light.

The rosins were darkened by the light, even in the inert atmosphere of nitrogen. The bleached rosin darkened to about the same extent as the unbleached. The ferrous resinate was also light sensitive, and an intimate mixture of ferrous resinate and rosin, as found in rosin size contaminated with quantities of ferrous iron smaller than those usually found in industrial waters, was more sensitive to light than rosin alone. The color change of ferrous resinate is probably the result of a photochemical reaction. The ferric resinate, aluminum resinate, and sodium resinate were not light sensitive.

Since rosin-sized paper contains rosin, ferrous resinate, and rosin size contaminated with ferrous iron, all of which were found to be light sensitive, rosin sizing as currently practiced appears to be detrimental to the preservation of the color of record papers.

TAPPI Notes

W. Norman Osborne formerly of Grays Harbor Pulp and Paper Company, Hoquiam, Washington, is now assistant superintendent of the Bellingham mill of the Puget Sound Pulp and Timber Company.

A. G. MacIntyre formerly of Staley Sales Corporation is now sales manager of the New Haven Pulp and Board Company, New Haven, Connecticut.

Clifford R. Swett has resigned as chief chemist of the Escanaba Paper Co. and is now in the technical service department of the Hooker Electrochemical Company at Niagara Falls, N. Y.

At What Temperature Should Paper be Dried?*

By Ogden Minton[1]

The title of this paper is in the form of a question. It is a question that the writer feels few people can intelligently answer. The writer has devoted most of his waking hours for the last ten years in studying the subject of drying paper and has come to the conclusion that it is not a simple problem and that there is still much to be learned about the subject.

For a great many years paper has been dried under atmospheric pressure both on heated driers and hung in the air as in loft drying or passed through festoon or other types of air drying. A certain range of temperatures were available but these, as will be shown later, were rather limited. The advent of the vacuum drier made it possible to use a whole new range of temperatures and particularly for the first time made it possible to dry paper at very low temperatures and still keep the rate of drying high and thus commercial. This fact coupled with the fact that high thermal efficiencies could be obtained and the size of the drier kept very modest opened up a wide field for vacuum drying. Temperatures as low as 90 deg. F. were available as evaporating temperatures of the water in the sheet of paper or pulp, and at the present time vacuum driers are operating at these low evaporating temperatures in a commercial way and in large production units.

However, the vacuum drier was not confined to these low evaporating temperatures, for by lowering the vacuum carried there were available temperatures all the way from about 85 deg. F. up to 212 deg. F., and by carrying a pressure instead of a vacuum still higher temperatures could be obtained and the thermal efficiency and other valuable characteristics of the vacuum drier still maintained. In the development of the vacuum drier the lower evaporating temperatures have been exploited first because of the fact that this was an entirely new field and remarkable results could be obtained on certain products. At an early date it was found that low evaporating temperatures were not correct to use on many kinds of paper and that certain high or comparatively higher temperatures were necessary in drying many kinds of paper due to the fact that the paper contained rosin or similar material which had to be dried at temperatures sufficiently high to flux or sinter the rosin in order to obtain a strong sheet of paper. The writer has in previous papers pointed out this fact and has stated that probably every sheet of paper should be dried at some given fixed temperature and that this temperature would vary for every kind of paper. But what was this temperature and how could it be accurately determined for any given paper? After this temperature was accurately determined what type and kind of drier could be had to insure that this exact temperature would be maintained? If the paper maker changed from one grade of paper to another would the dryer be capable of being adjusted to the new temperature that then became necessary? It is the purpose of this paper to answer these questions and similar questions which are immediately apparent.

No attempt will be made to consider the different stages of drying or whether or not such stages exist. It is pretty well known that the first part of the drying process is not very critical nor is the last part but that as the sheet is just getting dry there is a critical stage during which the temperature of drying is critical. If we can find this critical temperature and confine the entire drying of the paper to this one critical temperature we should get the best paper. From numerous tests and experiments this in the vast majority of cases can be considered the truth, but there are a few exceptions or rather possible exceptions, to this fundamental rule.

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Paper Strength

There are two major items that control the strength of a sheet of paper. First, the actual strength of the fibers that are supplied in the furnish and secondly the bonding of these fibers together. We will assume that the paper is made, in the different cases considered, so that the fibers are properly or at least interlaced in the same manner as on the wire of the paper machine. Rosin, natural or otherwise, may be in the furnish, or bonding may be obtained perhaps through a partial hydration of the fibers, which some assume is a jelly-like substance surrounding the individual fibers and which when the sheet is dried tends to fill up the space between the fibers and more or less cement them together. Others assume that hydrated cellulose is a separate chemical, but almost everyone admits the existence of hydrated cellulose to a greater or less extent in all paper and carried to the extreme in such papers as glassine, etc. Whether hydrated cellulose brought about by means of causticizing is the same thing does not matter from the standpoint of this paper and will not enter into the text. Suppositions on any of the above subjects are intensely interesting but form the subject for a paper all their own.

It is a well established fact that low temperatures will not injure any of the paper making fibers and that high temperatures will injure them. It has also been pretty well proven that when paper making fibers are wet they can be subjected to quite a high temperature without injury. It is generally admitted that the lower the temperatures used in drying paper making fibers the stronger and better the fibers will be after dried. Here we are speaking of the fibers themselves and not any matter that may be mixed with them. For instance, bleached sulphite pulp of high alpha content contains very nearly pure cellulose fibers and very definite facts about drying such fibers are now available. Such a pulp dried even at high temperatures may be dried down to about 75 per cent dry (air dry basis), and there is little loss of strength. In other words, as long as the pulp is still wet the high temperature drying does not seriously reduce the strength. If, however, the high temperature drying be continued till the pulp is brought down to 102 per cent (air dry basis) there is a very appreciable loss in strength. It has been found that when this same pulp is dried in a vacuum drier with an evaporating temperature of 100 deg. F., that the pulp can be dried to 102 per cent (air dry basis) with little or no loss of strength. The fact that there is little or no air present in the vacuum drying operation may have something to do with the results, as the action that reduces the strength of the fibers is probably an oxidizing action. However, air dried pulp, when the drying is carried out at room temperatures, produces very strong pulp. The above facts show that high temperature is injurious to fibers. Therefore, if there were no other considerations we should endeavor to dry all paper at low temperature.

Paper makers and even nature, as we will show, have conspired to change matters so that we have to resort to higher temperatures which while they are injurious to the fibers themselves still are necessary for other reasons and while we sacrifice something in the actual strength of the fibers we can gain enough strength from other things to more than offset the loss of fiber strength. The great majority of papers contains rosin or resinous material. Either the paper maker purposely adds rosin to his rag or pulp stock or, as in the case of ground wood and most pulp, nature has already added it. It has been experimentally found out that when resinous material is present with the paper making fibers it is necessary to heat the paper *while it is in the process of drying and is still wet* to such a temperature as will flux or sinter the resinous material, which will then flow and bind the fibers together into a compact mass and give the resulting paper

greater strength than it would have if this temperature were not applied. Further, this sintering of the resinous material will impart what we know as sizing to the paper. Often it is desirable to have highly sized paper and in drying the paper care should, in this case, be taken to see that the drying temperature is as high as necessary to get the maximum amount of sizing. Any temperature above that necessary to get the highest sizing effect will injure the fibers and not help the sizing of the sheet.

Rosin Size

It is not the intention of the writer to go into the subject of sizing paper as that is another subject and a complicated subject about which there is still much to learn. The various methods of getting the size mixed with the fibers will not be considered here, nor the different types and kinds of sizing, nor how they are made. We will accept the fact that the paper does contain size of one kind or another and try to show how this must be taken into consideration in the drying of such a sheet of paper. First we will consider drying paper containing resinous size and later the subject of drying glue sized sheets.

To start with, rosin or other natural resinous material, such as found in ground wood, has no definite melting point. As it is heated it gets softer and the more it is heated the more fluid it becomes. Again, it is not the purpose of the writer to try and show that this is the nature of rosin, which may be of such a nature that it contains a group of different resins, all of which have different melting points, or whether rosin is a single resin with this melting characteristic. In any case it is unlike ice which must be water at 33 deg. F. and ice at 31 deg. F. No two resinous materials seem to have exactly the same characteristics and when mixed with various kinds of paper making fibers they seem to be affected differently by drying. With our present knowledge of chemistry, it is impossible for the chemists to take some stock out of the stuff chest of a paper machine and by analysis tell us just how to dry paper made from that stock to get maximum sizing effect, maximum Mullen test, maximum tensile strength, maximum folding, or stretch. Ordinarily, the paper maker puts stock over his paper machine, which may or may not be equipped with a hood and modern ventilating equipment, and then juggles with the speed of the machine and the pressure of steam in the driers and in a few isolated cases makes adjustments to his ventilating equipment, the latter really is the only means he has by which he can vary his drying temperature, and in any case he is limited to only a narrow band of temperature changes, which, as a rule, lie between 170 and about 200 deg. F. If he does not get the results he wants he goes back to the beater and makes a change in his stock in an effort to get better results. It is purely a matter of chance if he gets the best results from his drying operation.

If, however, the paper machine is equipped with a vacuum drier the paper maker can vary the vacuum maintained in the drier and by so doing get any drying temperature from 85 deg. F. up to and even over 212 deg. F. At some one temperature he will find his paper showing maximum Mullen, at another maximum tensile, at another maximum stretch, tear, etc. Some of these may increase together and some will not, all depending on the kind of furnish from which the paper is made, and which tests he compares. At one certain temperature he will find that he gets maximum sizing and any further increase in temperature will not increase the sizing but will actually lower the strength of the paper. Hence, it is foolish for him to dry his paper at a higher temperature unless for some reason there is some third quality of paper which he can get at the higher temperature, which is desirable in that particular sheet of paper, and to get it he is willing to sacrifice strength. Thus, by changing the drying temperature and testing the paper so dried, the paper maker can select, from the results of the test, a quality of paper that gives him the best combinations of Mullen, tensile, size, fold, tear, etc., and proceed to make that kind of paper. Unfortunately, he will be unable to find any one temperature that will give him maximum everything. However, as mentioned just above, he will be able to select a temperature which is a compromise and perhaps he will select a temperature that will emphasize one character, such as Mullen test. He may make this selection because he thinks that the use to which the paper will be put calls for a high Mullen test or because his jobber, knowing nothing else about paper, demands a high Mullen test, which latter is only too often the case today.

Different Temperatures

Among other things the paper maker will soon learn that for every different furnish the same temperature of drying will not always produce the same effect and he will have to test each furnish for a drying temperature that will meet his requirements. This correct drying temperature only too often does not come within the range of drying temperatures available on an open paper machine drying section and is only available by use of a vacuum drier. Also if by chance this correct drying temperature is a possibility on the open drier section it will vary and change with changing outdoor temperatures, humidity and barometric pressure. He will then be forced to maintain constant temperature and humidity in his paper machine room—a very expensive and cumbersome expedient. Many grades of paper demand temperatures for drying that are nowhere near the temperatures available on an open drier section. Blotting paper, for instance, should be dried at the lowest possible temperature to insure that none of the resins present in the stock are fluxed and despite the fact that you might think the stock from which such paper is made contains no such resins, it actually does. Other papers we have found demand drying temperatures varying all the way from 85 deg. F. up to very high temperatures, such as 190 deg. F.

The importance of drying paper at exactly the correct temperature was never fully appreciated by the writer until very recently. It was first discovered that test sheets made of all rag furnish and high quality that were heavily rosin-sized and vacuum dried at high vacuum turned out to be pretty good blotting paper. Higher temperature drying brought out the size and completely changed the character of the sheet which actually was a very high grade ledger paper. Heating the paper after it was dried did not affect the sheet insofar as size was concerned and it was found necessary to have certain temperature in the sheet while it was drying. A slack sized sheet, rewet with water and redried at high temperature would bring the size back—almost as good as when hot dried originally.

Test Apparatus

It was decided to investigate the subject of correct drying temperatures and to accomplish this there has been evolved a method which is new, accurate, and comparatively simple. Several kinds of paper have been tested, including rosin and tub sized paper, and a mass of data collected. Other kinds of paper are still being tested and results show that the correct drying temperature for one kind of paper may be highly injurious to another kind of paper. To

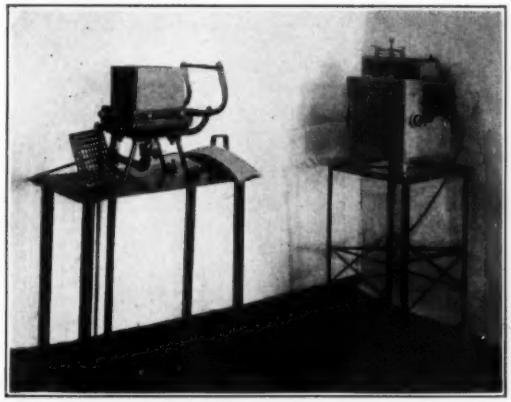

FIG. 1
Hand sheet machine and paper drying oven.

experiment with large size paper machines was found to be out of the question because of the expense and also because it was felt the results obtained would not be accurate enough, nor could changed conditions be obtained quickly enough. Therefore, a sheet machine was purchased, which is known as the John Date hand made sheet machine made in Montreal, Canada. It makes a sheet of paper eight inches by eight inches and is an ideal machine for the purpose. A complete description of this machine together with the correct method of making hand made sheets was published in the Pulp & Paper Magazine of Canada in the issue of March 29, and April 5, 1928. In making our sheets the sheet is couched off the wire on a piece of wet cambric, which is then placed on a blotter. Over this is carefully placed a second piece of wet cambric and over this a second blotter. When a pile of sheets is made it is put in an old-fashioned letter press and pressed for five or ten minutes. These are then removed from the press and the sheets of paper are found to average about 72 per cent wet (bone dry basis).

Next a special experimental drier was designed and built. This contained a stationary drying cylinder eight inches in diameter and fourteen inches long. This is mounted horizontally on a heavy cast iron stand. A heavy cast iron bell-shaped cover was made which can be placed over the drying cylinder and fits snugly against a rubber gasket. This cover is hung from a chain and it is possible to put this cover over the drying cylinder quickly and remove it quickly. The drying cylinder is fitted with a woolen drier felt which can be tightened or loosened from the outside. The drying cylinder is bored for a thermometer so that the actual temperature of the metal can be accurately read. Means of feeding steam or hot or warm water to the drying cylinder is so arranged that temperatures varying from cold water to 212 deg. F. can be obtained as well as steam pressures up to 100 pounds gauge pressure. By means of a two inch pipe, connection is made to a vacuum pump. A standard two-inch three-way gas cock in the pipe to the vacuum pump makes it possible to make or break the vacuum in two seconds and any vacuum up to 29.5 inches can be obtained. By means of another valve, air is allowed to go direct to the vacuum pump in order to produce any vacuum desired, less than 29.5 inches. Photographs of both the sheet making machine and the experimental drier are shown herewith. Careful tests were made to insure that when a sample sheet of paper was dried that the evaporating temperature would exactly compare with the temperature corresponding to the amount of vacuum being carried and wet and dry bulb temperatures were taken to insure that false readings would not be obtained. Moisture was added to the case to insure that the sheet would be dried in a saturated vapor which must then occur at the boiling temperature corresponding to the vacuum. It was then possible to start out with a vacuum of 29½ inches of mercury and the corresponding temperature of evaporation and have any selected drier temperature and dry test sheets. The vacuum was then dropped to, say, 28 inches and another sheet dried and so on down the scale till atmospheric pressure was reached and tests were then carried still further by admitting steam inside the bell and drying the paper at a pressure of five pounds (gauge) pressure above atmospheric pressure. This was then repeated with the drier cylinder hotter and an endless number of tests were seen to be immediately possible. It should be mentioned here that the wet sheet of paper was first placed on the woolen drier felt which hung down and away from the drier cylinder, the bell cover was then placed over the cylinder and the vacuum immediately applied. The felt was then pulled up against the drier, thus starting the drying operation and time was taken by means of a stop watch. At the end of a given time the felt was lowered, thus allowing the paper to fall away from the drier and the vacuum broken and the sheet removed. Rate of drying was controlled by the temperature of the drying cylinder, which was varied all the way from 100 to 335 deg. F.

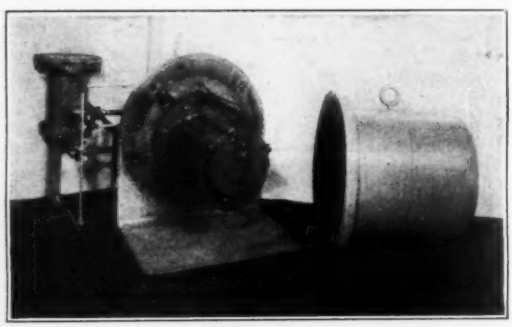

FIG. 2

Cylinder sheet drying machine. Felt is shown lowered from the cylinder. The bell is shown at the right and the hot water or steam generator is shown at the left.

As mentioned before, evaporation temperatures were varied all the way from 85 to 228 deg. F., and all sorts of combinations tried. Next, partial drying at one temperature was tried and final drying at another temperature and all sorts of combinations of both of these. By varying the time of drying, sheets of various moisture content were produced. Hundreds of sheets were made, care being taken to make several sheets alike and dried alike so that a good average test would result. It was found absolutely imperative that the sheets be accurately tested and they were hung in a constant humidity and constant temperature test room for 24 hours before testing. Corrections were made for slight variations due to weight and these corrections incorporated in the reading for Mullen, tensile, etc. At the same time air-dried samples were taken and used as a standard. Here again it was found that unless a constant wet and dry bulb temperature was maintained a very large difference in the test of these sheets resulted; especially was this true in the case of some tub sized ledger paper on which the Mullen test would vary as much as 10 per cent, depending on the wet and dry bulb temperatures at which they were dried, and this was true even when there was only a very slight variation in the wet and dry bulb temperatures. If the sheets were tested at other than constant humidity and temperature conditions other large errors occurred and, so-called, "trick sheets," were discovered; one of which at 9.7 per cent wet would test 8 per cent higher in Mullen than it would at either 12 or 8 per cent wet.

Results of Tests

From the mass of data collected an effort was made to arrive at some general conclusions that would apply to all grades of paper. One such conclusion was that if a sheet of paper is once over dried it can never be brought back to a high strength test of any kind. As one man put it, "You can make hay out of grass but you can't make grass out of hay." Overdrying probably has been the cause of more bad paper than any other thing. One explanation of this is that the water of hydration is dried out of the sheet and will not go back into the paper in the same form, even by soaking the paper in water, but will require beating or other means. It is not the purpose of this paper to say whether or not the above is a correct explanation, and as mentioned earlier the subject of hydration is a separate subject. The fact, however, remains that paper once seriously overdried can not be brought back to test high in strength and from some cause or other has lost its life and snap and has a dead feeling.

One other general conclusion was apparent. The rate of drying did not affect the sheet provided all other facts about the drying were kept in their correct proportion. To prove this fact we dried sheets at time intervals all the way from three seconds to three hours and if we kept the evaporating temperature constant and did not allow the sheet to, "case harden," the sheets would all test alike. Still another general conclusion was arrived at, namely, that any sheet that is allowed to cockle will be stronger than when it is not allowed to cockle. Of course, the percent gained by cockling varied with various papers. Among other tests long streamers of paper three inches wide were air dried under identical conditions with various tension in the sheet which was

accomplished by looping the sheet and placing small pieces of shafting in the loop of known weight and from which it was possible to calculate the tension per inch of paper. Some sheets would dry under considerable tension without loss of strength and all sheets would stand some tension without loss of strength. It was noted, however, that when the tension was sufficient to prevent cockling the strength at once fell off. In allowing the sheets to cockle we used still another type of drying to obtain varying temperatures. This was a casting over which we could place a cover and inside we arranged electrical heating coils which pass radiant energy through the vacuum to the sheet of paper which is placed about two inches above the coils. By varying the vacuum and maintaining a saturated vapor in the casting we experimented with temperature ranges and evaporating temperatures just as we had done with the cast iron cylinder mentioned heretofore. As mentioned above, sheets dried at the same temperature by means of the heating coils and by means of the cast iron cylinder always showed the former to be stronger because of the sheet being allowed to cockle. Of course, sheets dried at the same temperature were always compared. The gain in strength due to the sheet being allowed to cockle varied with different furnishes from a modest amount to as much as 12 per cent. We are convinced that any tensile strength taken by means of any of the standard testing machines does not give a true tensile strength reading of cockled paper due to the fact that the paper is cockled and that tension is put on certain groups of fibers across the sheet while other fibers in a cockle mark have no tension exerted on them till the other fibers have been over stressed. A Mullen test is much better due to the fact that the rubber diaphragm will probably follow the unevenness of the sheet and press more or less regularly all over the sheet. We feel that a tester using air would be still more accurate. In any case our experiments have convinced us that the tensile strength of a cockled sheet can not be fairly compared with the tensile strength of a flat dried sheet of paper. Failure to note the above fact led us to make some very erroneous assumptions during the beginning of our test work.

A careful study of the data obtained, which data is much too voluminous to print in this paper, showed that the drying temperature, and by that we mean the temperature at which the water evaporated from the paper, affected some 14 different qualities of paper as follows: Mullen strength, tensile strength, tear, fold, stretch, moisture content, color, ability to finish well and easily, size, cockle, actual finish as illustrated by m.g. drying, curling or flatness, tooth, shrinkage.

The effect of different evaporating temperatures on any one of the above was a varying effect, depending on the furnish of which the hand made sheets were made. Further experiments are still being carried out but to date no general conclusions could be drawn, other than those already mentioned. "Tendencies" in some cases were noted but no general hard and fast conclusions could be made. For any particular grade of paper there were certain temperatures that would invariably produce certain effects. As an instance of this, if a highly rosin sized sheet of ledger paper was dried at a temperature of 100 deg. F. it would come out with practically no sizing effect from the rosin and resembled a sheet of blotting paper. A temperature of about 170 deg. F. would, however, flux or sinter the rosin and the sheet would be highly rosin sized. A further increase in temperature would not help the sizing and would actually lower the Mullen test. Other similar sheets needed temperatures higher than 170 deg. F. to get maximum sizing effect and a few sheets did not need any where near so high a temperature. In some few instances color was not hurt by high temperature but in the great majority of cases color fell off when a high temperature was used. Fold in most cases was increased by low drying temperatures, but this was not invariably the rule. Very low cylinder temperatures could be made to produce a tooth effect on the sheet, probably because the sheet had a tendency to dry fast to the cylinder and slightly stick to it. Low temperature had a very pronounced tendency to reduce shrinkage. It is possible to mention many other tendencies shown from the data so far obtained but the writer hesitates to do this until more and different kinds of furnishes have been subjected to test, as the findings from additional tests may prove conclusions at this time to be wrong.

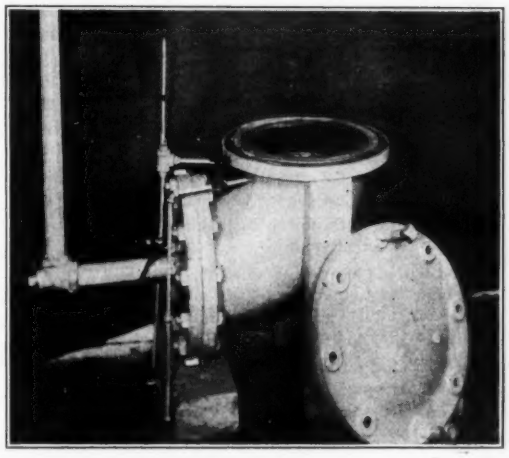

FIG. 3

Experimental drier, equipped with electric coils. Pipe leading to the vacuum pump shown at the left, cover at the right.

All of the above tests have been carried out in the experimental laboratory of the Minton Vacuum Dryer Corp., at South Norwalk, Conn., and the tests are still being continued and new facts discovered daily. It is possible with the apparatus available to take stock from the head box of any paper machine, from which stock hand made sheets can be made and then subjected to various evaporating temperatures and the sheets dried, then test the sheets and report the findings to the paper maker. He will then be able to see just what effect the different drying temperatures have on his particular furnish and can select any certain drying temperature for use in his paper mill. Chance may make it possible for him to reproduce this drying temperature on his standard paper machine, otherwise he will have to resort to vacuum drying.

Assume for instance that we are working with a given furnish and that we find the correct evaporating temperature and dry the paper at this temperature and then calender the sheet. Calendering in most cases will increase the strength due probably to a hydration of the surface of the sheet. Hydration by calendering is a phenomenon which has never yet been fully fathomed and is well worth the while of a good deal of research work. We all know, of course, that the moisture content of the sheet to be calendered is of the utmost importance. Our recent experiments, however, have shown us that perhaps by careful drying we can get a finished sheet of greater strength by slightly sacrificing some of the strength gained in drying, and by so doing allow the sheet to pick up additional strength or other advantageous features in the calender stack. A study is now being made with this point in mind. Roughly speaking, it appears that the most advantageous drying temperatures for much the greatest amount of paper will be found somewhere between 140 and 170 deg. F., and temperatures in this range are all possible in the vacuum drier and not generally available on open paper machine drier sections.

Efficiency

There has been a rather wide-spread feeling that the vacuum drier loses efficiency as the vacuum is lowered. This, however, is not the case and a vacuum drier can be operated even at atmospheric pressure and maintain extremely high efficiency. This is clearly pointed out by the writer in a paper entitled, "Thermo-

dynamic Comparison of Paper Drying Methods" submitted at the annual meeting of the T.A.P.P.I., held in New York, February 24, 1926. Nor are the operating difficulties increased, rather the opposite. For instance, a vacuum drier operating at an evaporating temperature of 172 deg. F. will require a vacuum of about 18 inches of mercury. For sake of comparison, compare this with another vacuum drier operating at 28 inches of vacuum. The vacuum pump will only have to be one-sixth as large and even a Nash type of pump can be used and condensate pumps dispensed with. One-third of the horsepower will be required for the pump. Roughly, the pressure of the atmosphere will be only 8.9 pounds per square inch as against 13.7 pounds per square inch in the case of the vacuum drier operating at 28 inches of vacuum. Therefore, the casing of the drier and the seal rolls, etc., can all be materially lightened and the difficulty of maintaining high vacuum greatly reduced. Also the cost of such a vacuum drier can be reduced. The quantity of water needed for the condenser will be reduced to almost one-fifth and this water will be a temperature of 162 deg. F., and is much more valuable at this temperature than is 90 deg. F. water coming from the condenser of the vacuum drier operating at 28 inches vacuum.

Nor does the size of such a vacuum drier become prohibitive. In any drier the rate of drying depends on the difference in temperature of the evaporating temperature and the temperature of the drier shell. However, in a vacuum drier when the steam pressure is raised in the drier shell and its temperature comes up, all of the difference in temperature so obtained is maintained because the evaporating temperature remains pegged and must correspond to the vacuum being carried, for this is the boiling temperature. In the open atmospheric type of drier the evaporating temperature tends to follow up any increase in drier temperature and the difference in temperature is then not so great. This latter fact also operates against the open type of drier, in that if the temperature happens to be correct and for some reason the paper is not dry enough it then becomes necessary to slow up the machine because if additional steam pressure is admitted to the driers the evaporating temperature will rise in an effort to follow up the increase in drier temperature, (provided, of course, no adjustment is made in the ventilating system in the machine room), and the evaporating temperature will then no longer be the correct temperature.

Glue or Tub Sized Papers

Ever since July 1915, the writer has claimed openly that glue or tub sized papers could be dried quickly and a sheet obtained that was the equal of a loft-dried sheet, or, to make it still harder, of a single air dried sheet dried under selected conditions. He has claimed that time or rate of drying was not a factor. Only until very recently, however, has he been able at will to accomplish this feat. One thing that he has had to learn is that it is absolutely necessary to allow the sheet to cockle and dry without restraint of any kind. Reference to tests of this kind have already been made, where sheets of paper were dried under selected drying temperatures in a vacuum of 29 inches of mercury in a saturated atmosphere by means of radiant energy supplied from electrically heated coils of wire. Sheets of various grades of paper have recently been dried in this manner in 30 seconds, that can't be excelled for Mullen or other tests to which the paper makers desire to subject them. Actually, the sheets so dried have excelled any air dried sheets that we have been able to produce. Here again it is just an interesting fact if air drying under any condition is the perfect way of drying such paper. In other words, a specific evaporating temperature is required for ultimate strength.

Rosin

The writer would like to apply to the chemists of the paper industry, or for that matter to any other industry, for a treatise on rosin, wherein information would be given as to the film strength of rosin solutions dried at various temperatures, together with information as to elasticity of such films and how both strength and elasticity may be effected insofar as drying temperatures are concerned. If we could discover some trick way of increasing the elasticity or tensile strength, or both, of rosin films it would be simple to make better high grade paper. Or better still, if the chemists will give us a material that we can substitute both as to cost and to sizing efficiency for rosin and which will have the characteristic of requiring low drying temperature, then again we will be able to make well sized paper that is stronger. It seems a sin and a shame to have to subject fibers, expensive fibers, to excessively high temperatures that positively injure the fibers for the mere sake of fluxing or sintering the sizing material so commonly used—rosin.

Conclusion

The reader by this time will perhaps wonder whether this paper has turned out to be a plea for low drying temperatures or a hope on the part of the writer to obtain new sizing materials that can be successfully fluxed at low temperatures, and used as a substitute for rosin, thereby making it possible to get the maximum amount of Mullen, tensile strength, fold, tear, etc., out of a sheet of paper. It has been shown that if we could obtain a substitute for rosin, and by that we mean a commercial substitute, that required low drying temperature for maximum strength, that we could then increase the strength of the paper we now are making. This fact has been brought out merely to show the limitations of rosin or resinous materials as used as a sizing material in paper.

The real purpose of this paper has been to show that there is a certain definite and exact evaporating temperature at which every sheet of paper should be dried and that every different kind of paper has a different temperature requirement to produce certain effects and to give the paper certain advantageous characteristics and that these characteristics in any given furnish can be changed by the drying temperature. Further, the writer is convinced that most paper makers do not generally realize that there is a critical temperature at which it is necessary to dry their paper, nor what that temperature is, nor do they know how to find out, nor do they appreciate that the vacuum drier is in most cases the only means of solving their problem.

Another object of this paper has been to correct a more or less erroneous opinion among paper makers that the vacuum drier is suitable only where extremely low drying temperatures are required. Such is not the case, as it is possible to dry paper at a higher temperature on a vacuum drier than on the open type of paper machine drier and still maintain in very high efficiency, small floor space, and all of the other advantages of low temperature high vacuum drying.

Still another object of this paper has been to show the paper maker that it is possible experimentally to determine the temperature at which he should dry his paper and to describe the necessary apparatus. The Laboratory and experimental apparatus of the Minton Vacuum Dryer Corporation are at the disposal of any member of the Technical Association of the Pulp and Paper Industry or for that matter any paper maker. Tests on any particular furnish will be gladly made. The person for whom such a test is made will be greatly surprised to find out what a difference even small changes in evaporating temperatures will produce in a sheet of paper and will learn that what he may now think rather an inferior furnish may, by the use of a correct drying temperature, be made to produce a much higher grade of paper than he would expect.

The Minton Vacuum Dryer Corporation, Smith Building, Greenwich, Conn., will be glad to give to anyone interested in this subject detailed blue prints of the experimental drier and complete details of how to conduct tests such as have been referred to in this paper and complete information regarding the hand made sheet machine, and will be glad to cooperate with them in any other helpful way.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

For photostatic copies of articles appearing in the Abstract Section, address the chairman of the Abstracts Committee, Dr. Clarence J. West, National Research Council, 21st and B. Streets, Washington, D. C. The charge for this service is: Photostats 9 x 11 inches, 18 cents each; 18 x 11 inches, 35 cents each; 22 x 18 inches, 70 cents each; minimum charge, 50 cents. Payment should be made upon receipt of invoice. Copies of United States patents may be obtained from the U. S. Patent Office, Washington, D. C., for 10 cents each. Send currency not stamps.

Machinery

Mechanical Handling of Pulpwood with Power Rakes. James W. Boyd. Paper Trade J. 92, No. 8, 130-135 (Feb. 19, 1931).—A description of the pulpwood rake apparatus developed by the Maine Electric Co. with the collaboration of the S. D. Warren Co. for storing pulpwood and reclaiming it from storage, together with concise data records of the first two installations in the yards of the S. D. Warren Co., Cumberland Mills, Me., (in operation since December 1928) and of the Maine Seaboard Paper Co., Bucksport, Me., (in operation since August 1930).—A.P.-C.

An Economical Method of Handling Pulpwood. H. J. Hugill. Pulp Paper Mag. Can. 31, 311-313 (Feb. 26, 1931).—A description of the method of handling pulpwood used at the Ste. Anne Division of the Abitibi Power and Paper Co.—A.P.-C.

Log Barker. Carl B. Thorne, U. S. pat. 1,776,643, Sept. 23, 1930.—The logs are fed into pockets, the sides of which are formed of vertical rollers pivotally mounted in horizontal beams at the top and bottom of the pocket. In the bottom of the pocket are longitudinal slots, and cams mounted on endless travelling chains project through these slots into the pocket and produce a continuous wave-like motion of the logs in the pocket. The logs are expelled by a rotating cam mounted in the wall of the pocket at the discharge end. Chains are also provided that rest on top of the logs in the pockets.—A.P.-C.

Digester Support. Dorrien G. Moon assignor to Continental Paper and Bag Corp. U. S. pat. 1,771,581, July 29, 1930. The invention provides a braced supporting structure, independent of the digester and acting as a cradle for it. The digester rests on a suitable number (four is generally sufficient) of steel brackets, having an inner surface configuration corresponding to the curvature of the digester shell and its contact surface at an angle corresponding to the angle of inclination of the digester bottom. The brackets are mounted on cast iron columns and are braced together by means of a double row of anchor members.—A.P.-C.

Method for Blowing Out Pulp Digesters. Einar Morterud. U. S. pat. 1,776,761, Sept. 23, 1930. In order to obtain a clean blow, a fluid, such as hot liquid, steam or gas, is supplied to the bottom part of the digester during the blowing period so as to form between the pulp charge and the bottom part of the digester a thin film serving to decrease the friction between the charge and the bottom of the digester. The fluid may be introduced continuously or intermittently and will have the same direction of flow as the pulp being discharged.—A.P.-C.

Arrangement for Perforated Bottoms in Pulp Digesters and Similar Containers. E. Morterude, Nor. pat. 48,129 (Nov. 20, 1929), The perforated bottoms are put together from single conical rings whose lower narrow side comes in contact with the upper broad side of the ring following. Each of the rings possesses a special liquid outlet.—J.F.O.

Arrangement for Pulp Digesters. K. M. Strand. Nor. pat. 48,130 (Aug. 12, 1929). Several perforated cross pieces are placed around the circumference of the lower part of the digester. The liquor is screened through the holes and is removed from the lower end of the cross pieces and drawn off at the dump valve. Projections are fastened to the cross pieces for the support of the steam coils.—J.F.O.

Process and Arrangement for Blowing Out the Contents of Pulp Digesters. E. Morterud. Swed. pat. 70,145 (Sept. 5, 1928). A liquid, steam or gas is introduced continuously or intermittently into the digester in such a manner, during the emptying or only during a part of the emptying, that it loosens the material leaving at the outlet.—J.F.O.

Arrangement for a Pulp Digester. G. Haglund. Swed. pat. 69,763 (Nov. 30, 1927). The digester is connected with an enclosed container, which is filled in part with the cooking liquor and in part with a liquor which does not react with the cooking liquor and is also immiscible. The container is conected with a pressure pump and another tank.—J.F.O.

Experiments with Various Digester Filling Apparatus. Joachim Wehse. Papier-Fabr. 28, No. 26: 421 (June 29, 1930). Thirty per cent of the digester space is consumed by the chipped wood, the remainder for the liquor. But with mechanical filling devices the percentage of chips in the digester increases to 37.5 per cent. Hence there is a saving in steam, sulphur, time and better pulp quality with these filling devices. The article was written to refute assertions made at the Technical Institute for Paper in Ktohen.—J.F.O.

Device for the Uniform Filling and Emptying of Circular Pulp Blow Pits. Maschinenfabrik Hartmann A. G. Ger. pat. 499,274 (May 15, 1928). Addition to Ger. pat. 489,331. The device according to Ger. pat. 489,331 is characterized in that besides the scoop part which is capable of being raised and lowered, a special delivery device is provided near the outlet which forces the drained material, by means of a scoop, toward the circumference of the blow pit and uniformly through the pulp outlet and then onto the conveyor system.—J.F.O.

Arrangement for the Emptying of Blow Pits in the Manufacture of Pulp. E. S. Sandberg. Finn. Pat. 12,844 (Oct. 12, 1927). The emptying of the blow pit is done by a valve placed at the lowest point in the pit, this valve being of such a design that water is also added to the pulp at the location of the valve and in this manner the stock is washed out.—J.F.O.

Knotter. Ludwig Keferstein Ger. pat. 505,590 (Dec. 17, 1927). The knotter consists of a basket for the unrefined stock with sloping screen plates pendulating in a larger container. The knotter operates in such a manner that the sloping screen plates dip in and out of the refined stock in the container.—J.F.O.

Knotter. Axel C. Andersen, and Arne Schie. Ger. pat. 503,-269 (July 17, 1926). The invention concerns a knotter which is vibrated by means of an eccentric or a cam.—J.F.O.

Knotter. Karl Nebrich, Ger. pat. 507,587 (July 29, 1927), The invention concerns itself with a knotter for the production of paper and pulp, in which the stock is introduced through the bottom and whose screen space is divided into an outer and inner space which are separated by a screen plate revolv-

ing around a perpendicular axis. It is characterized in that the space where the accepted stock is separated from the knots, near the bottom there is an inlet for the stock to be screened, and an outlet for the sand which can be opened or closed. At the top of the same space there is an outlet for the knots with a trough around the circumference and in the center there is an outlet for the screened stock.—J.F.O.

Refiner for Stock Preparation Consisting of Two Sphereoidal Working Surfaces Pressed Against Each Other, the Axis of Rotation Being Inclined Toward Each Other. Reinhold Wendel. Ger. pat. 496,000 (May 29, 1927). The axis of rotation are fixed in such a manner that they can be regulated so that the angle of inclination between them can be changed as desired—J.F.O.

Ball and Rod Mill, Especially for the Pulp and Paper Industry and Other Industries Related With It. Maschinenfabrik Akt. Ges. vorm. Wagner & Co. Ger. pat. 501,537 (Sept. 16, 1928). The mill is provided, at the rear cylindrical mantel as well as at the spherical shaped bottom, with holes having a specially constructed cover capable of swinging open.—J.F.O.

Arrangement for Screen Plates for Pulp and Paper Stock. A Bol. Nordisko Armaturfabrikerna, Swed. pat. 69,045 (Dec. 8, 1927). The number and length of the slits in the screen plate change with every second row of slits.—J.F.O.

Cylinder Screen. Felix Burghauser. Ger. pat. 495,285 (Sept. 5, 1928). The cylinder screen is a cylinder consisting of two parts. The smaller of which can be drawn in toward the center of the cylinder. In this manner, the total circumference is decreased thus making possible a light and easy removal of one of the screens from the cylinder.—J.F.O.

Screen Plate for the Classification of Pulp and Paper Stock. A.Bol. Nordiska Armaturfabrikerna. Aust. pat. 116,881 (Nov. 15, 1929). The cuts in the screen plate lie in adjacent rows and are so arranged that between each two rows of short cuts, a row of less cuts of greater length is placed. Thereby the screen per unit surface and the capacity of the screen plate is considerably increased.—J.F.O.

Process for the Screening of Pulp, Paper Stock and Similar Substances. Gumal Knapp. Ger. pat. 494,982 (Dec. 19, 1924). —Several rings projecting inward are arranged on the inner wall of a centrifuge with a revolving drum. On the drum are likewise rings projecting towards the inner wall of the centrifuge. The specifically heavier stock is held back by the rings while the lighter stock is led through the drum to its outlet end.—J.F.O.

Arrangements for Screening Stock and Similar Materials. J. M. Spangenberg. Swed. pat. 69,210 (Nov. 29, 1926).—A spiral rib or such is placed on the inner circumference of a rotating cylinder screen in order to aid in the screening of the coarse stock which remains at the bottom in the cylinder which is partly submerged. Water for dilution purposes is added at both ends of the cylinder. The cylinder and trough is given a vibratory motion.—J.F.O.

Arrangement for Suction Screen Cylinder for Pulp and Paper Stock. A. S. Myrens Mek. Verksted. Nor. pat. 47,646 (Feb. 28, 1928).—A part of the circumference of the screen serves as the preconcentrator of the stock, in order to make it suitable for the following final working into a continuous sheet of stock on another part of the cylinder.—J.F.O.

Arrangement for a Screening Apparatus for Wood Fibers. Wessel Waal. Nor. pat. 48,132 (April 12, 1927).—A channel shaped stock trough reaches around the circumference of the drum covering. Scoops fastened onto the revolving wheel dip into the stock and throw it against the screen surface.—J.F.O.

Horizontal Centrifugal Screen for Ground Wood, Pulp or Other Substances Contained in a Liquid. Rudolf Ernst Wagner, Ger. pat. 507,586 (Aug. 4, 1927).—The invention concerns a centrifugal screen with a perforated screen mantel and a cylinder revolving within this mantel, the cylinder being provided with vanes and scoops. Inlets for the stock and for the dilution water enter the screen mantel at the unperforated section in such a manner that the stock is prevented from going directly through the screen mantel, instead it is given an axial motion and directed in such a way that the greatest screening effect is secured.—J.F.O.

Methods of Washing Pulp. .Otto Mantius. U. S. pat. 1,790,-714, Feb. 3, 1931.—The pulp to be washed is pressed to remove a large amount of the water. The pressed pulp is shredded in a large volume of water, and then pressed again. The operation may be repeated if desired.—A.P.-C.

Process for the Removal of the Liquor Remaining with the Pulp. S. Svensson. Swed. pat. 69,965 (Aug. 30, 1926).—The mixture of pulp and liquor is blown from the digester into a diffusor. In order to have the size of the diffusor as small as possible, compressed air is used and during the washing process, the quantity of liquor and the pressure is held constant by regulating the inlet and outlet valves.—J.F.O.

Stock Outlet with a Device for Agitating and spreading out of the Stock for Paper, Carton and Board Machines. Firma J. M. Voith, Nor. pat. 48,242 (March 19, 1928).—The agitator lies completely in the stock at the lowest level.—J.F.O.

Functions and Properties of the Various Types Paper Making Felts. D. C. G. I. P. Papeterie 52, 1238-1246 (Oct. 25, 1930).—A brief discussion of the functions of jackets, press felts and drier felts, of the properties which they should respectively possess, and the proper manner of handling them.—A.P.-C.

Paper Machine Felt Operation. R. W. Pattison. American Writing Paper Co., Holyoke, Mass. Paper Trade J. 92, No. 8, 116 (Feb. 19, 1931).—Increasing the porosity of the felts increases water-removal at the presses, but decreases the life of the felt, so that it is necessary to establish a balance between the increased felt-cost and decreased water-removal cost resulting from increased porosity. The various factors affecting felt life are briefly discussed.—A.P.-C.

Felt Band for the Paper Machine. Hutter & Schrantz, A. G. Czech. pat. 32,114.—Threads are used in the manufacture of felt bands which are composed of various single threads which are twisted together in such a manner that they give the appearance that the thread is homogeneous. The threads can be composed of animal or plant fibers or from mineral materials. —J.F.O.

Wet Felt for Paper and Board Machines. Nutter and Schrantz. A.G. Aust. pat. 118,668 (Oct. 15, 1929).—The cross threads are more resistant, that is, they are not subjected to friction as much as the linen cross threads.—J.F.O.

Couch Breaks and Arrangements for the Prevention and Safety from such. W. Schmid. Papier-Fabr. 28, No. 22; 361-362, (June 1, 1930).—The occurrence and reasons for couch breaks are discussed. A description of two arrangements for the prevention of couch breaks and safety from such are described.—J.F.O.

Device for the Automatic Adjusting and holding in the Correct Position of Revolving Bands and Webs of Felt, Paper, Wire and Similar Materials. Richard Kastner, Steyrenmuhl and Herbert Schmolka. Aust. pat. 118,072 (April 15, 1929).—The device consists of an adjustable bearing, which moves the band or such, connected to the guide roll which is influenced by pressure means, for example, by means of a jet of water.—J.F.O.

Device for the Regulation of Moving Felts used at the Wet End of a Paper and Similar Machines. Firma J. M. Voith. Aust. pat. 118,896 (April 15, 1930).—On the one side of the felt is a roll driven at a higher velocity than the felt itself, and on the other side a roll is arranged which can be pressed against the first mentioned roll so that the velocity of the felt traveling between the rolls is temporarily increased. With this

device the felt is not distorted and it thereby holds its property for the removal of water.—J.F.O.

Device for Regulating the Travel of a Moving Felt on a Paper and Similar Machines. Fritz Dost. Ger. pat. 486,264 (June 12, 1928).—A rotating cylinder, traveling somewhat faster than the speed of the felt, is so arranged that it touches the felt or allows a small space between the felt and the roll. One roll rotates and is displaceable parallel to the cylinder. It can be placed on the cylinder in any desired position so that the felt travels between both.—J.F.O.

Paper Making Felts. A. H. Thuerer. Paper Mill 54, No. 1; 14, 16 (Jan. 3, 1931).—A description of the care and precautions required in manufacturing felts to meet the exacting requirements of the paper industry.—A.P.-C.

Metal Cloth for the Manufacture of Paper. C. Kurtz-Hahnle. Nor. pat. 48,037 (Oct. 6, 1926). The threads of the wire cloth are weaved in a direction oblique to the direction of motion of the cloth.—J.F.O.

Wire, Especially for a Paper Machine. Oesterreichischen Fezfabriken. Aust. pat. 116,906 (Nov. 15, 1929)—To prevent the wire from tearing along the sides, the wire is composed of warp threads of non-rusting steel along the edge or of some similar wire of greater resistance and greater strength than the other warp wires.—J.F.O.

Method for Joining the Ends of a Wire used Especially in the Manufacturing of Paper and Board, by Soldering Instead of the Usual Sewing of the Wire. Rene Franck. Aust. pat 118,879 (April 15, 1930)—A soldering material with or without metallic crystals of higher melting point is placed between the warp threads at the edge of the wire to be mended and the usual wool threads. The edges of the wire are then placed upon each other and the soldering material is brought to its melting point.—J.F.O.

Save-all for the Separation of the Solid Materials in the White Water in the Manufacture of Paper. Mathieu Lembree, Ger. pat. 503,097 (Aug. 30, 1927)—The save-all is composed of two conical sections, the larger ends of which are connected together, so that the white water being separated is given a tangential motion as it enters the save-all. The clear water is removed by means of a trough built around the top of the tank.—J.F.O.

Process and Device for Thickening White Water, Especially Containing Fibers from the Production of Paper. Otto Andresen. Ger. pat. 498,560 (Jan. 22, 1929)—An endless wire forming the bottom of the white water tank, moves slowly and forms an even layer of stock, resulting from the white water in the tank immediately above passing through the wire. On top of each end roll of the wire are heavy rolls forming the ends of the tank located above, as well as serving to press out water from the fiberous layer deposited on the wire.—J.F.O.

Process for the Recovery of Fibers from Liquids Containing Fibers. Adolf Magnus Rupert Karlstrom, Ger. pat. 495,681 (Aug. 25, 1927)—The fiber, mixed with air and gases suspended in the liquid, is led into a container in which the fibers containing air and gases rises to the surface and thence removed. The process is characterized in that, the liquid is led into the container in an upward directed stream in order to assist as much as possible in the raising of the fibers to the surface.—J.F.O.

The Adka Saveall. Anon. World's Paper Trade Rev. 95, 96-102 (Jan. 9, 1931)—A description of the Adka Aerator Saveall, in which air is injected into the white water, the latter rises into a cylindrical tank kept under a vacuum of about 7 inches, the fibers and fillers float on account of the adhering bubbles of air and are skimmed off by a suction scoop which slowly rotates at the surface of the liquid. The advantages claimed for the apparatus are: efficiency of about 95 to 99%; small floor space required; very small volume of white water actually in the apparatus; automatic and rapid change of color and stock (time to change color about 5 minutes); no need to wash out main tank when changing color, etc.; high consistency of recovered stock; small attention and practically no upkeep required; very small loss of fiber when changing color.—A.P.-C.

Saveall. William C. Weber assignor to The Dorr Co. U. S. pat. 1,770,353, July 8, 1930.—This is an improvement to tray thickeners as disclosed in U. S. pats. 1,135,997 and 1,237,745. It provides for the balancing of the hydrostatic pressure of the discharging supernatant liquid by the hydrostatic pressure of the discharging thickened sludge material.—A.P.-C.

White Water in Paper Mills. A. I. MacNaughton. World's Paper Trade Rev. 95, 268-280 (Jan. 23), 360-368, 426, 428 (Jan. 30, 1931).—General notes on the utilization of white-water, based on personal operating experience in a wide variety of mills. The discussion of the members present at the reading of the paper is also given.—A.P.-C.

White-Water Sampler. Charles F. Rhodes assignor to International Paper Co. U. S. pats. 1,769,308, 1,769,461 and 1,769,462, July 1, 1930.—No. 1,769,308—A sampling dipper is driven through suitable reducing gearing from a water wheel driven by the stream of white water to be sampled, so that the number of dipperfuls taken by the sampler varies as the velocity, that is, as the volume of the white water. A suitable tripping device empties each dipperful of white water into a barrel or other passage of the sampling dipper through the white water at such suitable container. **No. 1,769,461**—It has been found that the speed as was contemplated by the mechanism of patent 1,769,308 gives an opportunity for the fibers and other material to settle in the dipper to an undue extent, with the result that the samples taken contain a greater proportion of solid matter than is contained in the body of white water being sampled. This is overcome in the present invention by accelerating the dipper at that part of its revolution where it is immersed in the white water. In No. 1,769,462, the dipper is revolved intermittently between periods of rest, the number of revolutions being, as before, proportional to the velocity of the stream of white water. —A.P.-C.

Packing for a Suction Roll Bearing Running in Water. S. K. F. Norma G. m. b. H. German pat. 493,756 (Nov. 23, 1927)—The bearing is so arranged that a hollow space lies between the shaft and a protective covering.—J.F.O.

Suction Roll for Paper Machines. Max Wenzel, Aust. pat. 117,307 (Dec. 15, 1929).—Any table roll is arranged in a suction chamber with packing arrangements and the whole is enclosed in itself.—J.F.O.

Roll Collar. Stefan Rauscher & Sohne. Aust. pat. 116,883 (Nov. 15, 1929).—The roll collar with core lock and plate protected caps is composed of four parts which are united with each other by special adapted nuts and springs.—J.F.O.

Process for Removing the Air from Suction Boxes. Max Wenzel. Ger. pat. 498,858 (Oct. 30, 1926).—By means of a multiple centrifugal blower, whose divisions are provided with suction inlets and connected by pipes to the corresponding suction box or group of suction boxes, the air is removed from the suction box. The change in vacuum is regulated by a change in the speed of rotation of the blower and by throttling the connecting lines to the blower.—J.F.O.

Arrangement for the Regulation of the Suction Column in a Suction Filter and Similar Apparatus used in the Pulp and Paper Manufacture. M. J. Magnussen. Nor. pat. 47,645. —Outlets are arranged in the suction chamber next to the continuous acting suction device, disconnectable by valves which stand in combination with the separate cells under the wire cloth.—J.F.O.

Process and Device for Removing the Stock from a Suction Filter. M. J. Magnussen. Nor. pat. 48,241 (Dec. 20, 1927). —A jet of water is sprayed tangential to the outside of the drum at the position on the drum where the suction action on the stock is broken for a short period.—J.F.O.

For Suction Cylinders which are Divided into Single Cells.

Anfinn Mylius Pedersen, Nor. pat. 48,244 (Sept. 7, 1929).—The cells or a part of them are arranged obliquely to the longitudinal direction of the suction cylinder in relation to the axis of the latter.—J.F.O.

Process for the Control of Suction Screens for Ground Wood, Pulp and Similar Substances and Arrangement Therefore. Sverre Diesen, Nor. pat. 48,286 (July 29, 1927).—The rotating cylinder covered with a felt and divided into cells forms a wall of the stock chest to the cylinder. The cells are filled with water before its filter area comes in contact with the stock going to the filter from the above stock chest.—J.F.O.

Arrangement for a Suction Box on a Paper Machine or Similar Machine. John Moe. Nor. pat. 48,133 (March 19, 1928). —The mixture of stock being de-watered is carried on table rolls which are in turn resting on free running support rolls. The table rolls are driven by a common shaft.—J.F.O.

Doctor Device for Suction Drum Filters, Especially used in the Manufacture of an Endless Sheet of Stock, at whose point of Release of the Stock, a Doctor Roll is Provided. Maschinenfabrik Buckau R. Wolf Akt. Ges. Ger. pat. 497,374 (Dec. 18, 1926).—The cells of the doctor roll are so regulated that the filter drum continuously giving up the stock at its air pressure zone comes together with a suction acting cell. The thickness of the stock after further contact on the roll, falls off at the pressure sector.—J.F.O.

Suction Filter. Maschinenfabrik Buckau R. Wolf Akt. Ges. Ger. pat. 504,706 (May 7, 1926).—The invention concerns a suction filter, especially for the production of a web of pulp or similar fiberous material, which has a stock trough surrounding the drum whose distance from the drum increases in the direction of rotation of the drum. It is characterized by having the stock inlet at the narrow part of the trough. In this manner, the greatest use of the total drum surface is utilized, the falling off of the layer of pulp is prevented and a quiet and even flow with the absence of corners and angles is affected.—J.F.O.

Process for the Manufacture of Dandy Rolls for the Making of Water Marks. Raymond de Montgolfier. Ger pat. 498,249 (Feb. 19, 1926).—The raised letters or designs are pressed into the smooth surface of the roll by means of the usual galvanic plastic process.—J.F.O.

Roll with Raised Design for Colored Designing of a Web of Paper. Friedrich Obitz. Ger. pat. 495,056 (May 30, 1928). —The relief design is composed of a water repelling material, such as, spirit shellac or paraffine, which after use, is easily removed by solvents.—J.F.O.

Calender. Joh. Kleinwefers Sohne. Ger. pat. 495,759 (Nov. 21, 1928).—The pressure is carried over from the pressure cylinder to the rolls by several double armed levers, following and coupled together with each other. The invention is characterized in that the lever arms coupled together with each other are formed as guides.—J.F.O.

Hydraulic Pressure Device for Calender Rolls. Joseph Eck & Sohne. Ger. pat. 507,766 (Feb. 5, 1929).—The invention concerns a hydraulic pressure device for calender rolls arranged over the rolls for raising and lowering them by means of hydraulic pressure.—J.F.O.

Moistening Apparatus. Gustav Schlick. Ger. pat. 510,274 (June 2, 1929).—The moistening device for paper in motion consists of a slit pipe provided with sprays with air openings which can be regulated. The purpose of the invention is to provide the air inlets with a tangential directing guide and the slits in the pipe are covered with deflecting caps. According to claim number 2, the air inlets consists of revolving discs. And claim 3, states that the deflecting caps are fixed so that they can be regulated.—J.F.O.

Moistening Device. Gustav Schlick. Ger. pat. 511,699 (Mar. 30, 1930).—Addition to Ger. pat. 510,274. On the moistening device according to main patent 510,274 the spray showers are arranged in a tangential direction.—J.F.O.

Device for Maintaining a Certain Speed at the Shaft of a Machine, Especially for a Paper Machine. A. G. der Maschinenfabriken Escher Wyss & Co. Aust. pat. 118,423 (Sept. 15, 1928). —The source of power rotating at the most uniform speed possible moves the drive shaft through a mechanical speed regulating device.—J.F.O.

Paper and Carton Machine. Erste Ungarische Karton-Pappenfabrik A. G. Ger. pat. 503,098 (Sept. 29, 1928).—The machine consists of a cylinder section and a fourdrinier section, the sheet from each joined together.—J.F.O.

Roller Bearings for the Rolls of a Paper Machine. A Bol. Svenska Kullager-fabriken. Aust. pat. 118,094 (Feb. 15, 1930).—The idea of the invention lies in that each roller bearing sits with the inner ring formed of the roll end as the axle, while the outer ring is formed in a pot like housing which is fastened on to the axel of the roll and lies in the fastening position by means of supports.—J.F.O.

Bearings for the Rolls of a Paper Machine, where the Rolls must be raised at one end for the changing of a felt or wire. A. Bol. Svenska Kullager-fabriken. (Feb. 15, 1930).—At the end of each roll, a single bearing is built in a housing which swings out on its outer side around a joint and away from the center of the bearing and rest in its operating position at the end and at the other end it rests on two supporting surfaces.—J.F.O.

Miscellaneous

Paper Oiler and Waxer. Carl A. Arvidson. U. S. pat. 1,769,250, July 1, 1930.—The paper is oiled or waxed by contact, as it passes under the last top drier roll, with a wick which is partly immersed in a bath of oil or liquified wax. The wick is slightly shorter than the width of the paper to be oiled to prevent the oil from getting on the drier felt. The wick is mounted so that it can readily be brought into or out of contact with the sheet to start or stop the oiling process. The bath is mounted adjustably relatively to the drier.—A.P.-C.

Pulp-Molding Machine. Merle P. Chaplin, assignor to The Fidelity Trust Co. U. S. pat. 1,777,281, Oct. 7, 1930.—The machine has a number of forming dies which are passed successively through a vat containing pulp where they pick up a layer of pulp. Compression dies register with the forming dies and compress the material. Transfer mechanism is provided to receive the compressed articles from the compression dies and transfer them to a conveyor. The forming dies are constructed so that a large proportion of the moisture from the molded article is extracted before it is subjected to the action of the compression die. Means are provided, in conjunction with the compressing mechanism, for automatically stopping the machine when the article being formed exceeds a predetermined thickness, and for cutting off the suction from the forming dies when the machine is stopped.—A.P.-C.

Process and Arrangement for the Manufacture of One Sided Finish or Colored Paper on a Paper Machine. Victor Anaoine, Aust. pat. 117,299 (Dec. 15, 1929).—The liquid being brought to the sheet is used in the form of a pad and applied directly before the calender.—J.F.O.

Process for Glazing Paper or Cardboard on One Side. I. G. Farbenindustrie Aktiengesellschaft. Belg. pat. 371,217, July 31, 1930.—An exceptionally smooth and extremely glossy finish is obtained by moistening the side of the sheet to be glazed with a solution of alkyl cellulose, such as dimethylcellulose.—A.P.-C.

Preparing Fiber for Wall Board Pulp. Treaday B. Munroe, assignor to The Celotex Co. U. S. pat. 1,785,840, Dec. 23, 1930. —Raw fibrous material such as bagasse is cooked in the presence of chemical substances resulting from previous cooks and at a temperature and for a time sufficient to loosen fiber-encrusting material but insufficient to produce fibers suitable for paper making; the figers are freed from their cementing tissues by forcible hydraulic action, and are recovered.—A.P.-C.

Section of the

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Edited by T. J. Burke C. A. Director Cost Dept.

The Use of Costs In Selling*

By R. G. Knowland[1]

The use of accurate cost accounting in manufacturing is so well established, and the results so generally known, that it is difficult to account for the failure of the average concern to regulate its sales on a like basis and by similar methods. The means employed in setting production costs have developed procedures that naturally fit equally well into the control of markets, of sales methods, and of sales costs under varying conditions. In these days of difficulty in merchandising at a profit, it is especially necessary to know, not only where the most favorable market lies, but what makes it favorable and why. Obviously, the most favorable market for any company is that which will yield that particular concern the largest net return. Under this definition, the cost of selling to that market may become nearly as important as the cost of manufacturing. In any event, the market and its peculiarities together with the most effective means for approaching it can ultimately be best determined by the principles employed in costs. Furthermore, once these factors have been established and the sales program put in effect, the latter can be effectively directed only by the continued use of cost principles.

Sales Operations and Manufacturing

This brings us to a brief consideration of the necessity for having always at hand a complete picture of the extent of trends in sales operations as well as in manufacturing. The balance sheets of a firm show only its static position as also do ordinary records of sales. If one relies only on such records, the tendency of a company toward a stronger or weaker position can hardly be determined. The result is likely to be an ex post facto finding of failure. If however, analytical costs methods are applied to sales as well as to production, and the figures continually compared with similar past records, the trend of a concern becomes known at all times. With this information, an able management can keep its affairs in control so far as the limitations of the situation permit.

Facts Borne Out by Balance Sheets

These facts are borne out by a scrutiny of the series of balance sheets of the Naca Manufacturing Company. In view of a shrinkage in surplus of some $175,000.00 over a five year period as evidenced by five statements, it is obvious that the corporation has run down hill rapidly, but no evidence is indicated as to the causes. Perhaps manufacturing costs are too high to meet competition; but perhaps local or general phases of the distribution costs too heavy; there may have been a loss in volume or too much volume at too low a margin. No clue is shown as to cause or proper remedy. This condition is typical of any concern which does not so apply cost principles to sales and production alike as to reveal clearly at all times the rate of progress and the extent of progress.

In the following discussion, the application of cost principles to sales is assumed to cover not only the use of costs for regulating sales but also the employment of methods similar to those used in deriving costs for determining the basic facts underlying any sales problems.

In the instance of our own company, the background against which was built an application of costs methods to the control of sales was formed by many years of successful use of accurate cost analysis in the manufacturing end of the concern. It should be said that job cost methods, while desirable for many purposes, are in general too unwieldly for the complexity of conditions encountered in textile manufacturing and particularly for the carpet industry. Consequently, a former job cost system was replaced a number of years ago and the standard cost method applied to each operation. You have already heard a description of such systems and, therefore, understand the implication.

Barometer System Employed

The barometer system of making monthly comparisons of the actual costs of each operation with the standard costs was employed. Over this system was superimposed a simple plan of bonus payments to overseers in order to provide inducement to maintain actual costs at or below the standards set for the respective operations. This method of cost control in product is in successful use in all three mills of the company and has a long record of most productive results. It serves not only as a check on operations, but for measuring the productive activities of staff men engaged in engineering or other improvements as to method or material; as well as forming a basis for estimating costs when the semi-annual budgets are prepared.

In view of the successful use of cost principles in production, it was quite logical to introduce methods for ascertaining and regulating the economics of the sales problem similar to those employed in deriving the basic facts which underlie the production cost system.

* Address given at N.A.C.A. Convention at Pittsburgh, Pa., June 17, 1931.
[1] Vice-Pres. and General Mgr. Bigelow Sanford Carpet Co.

Major Subjects

The major subjects about which were centered sales control methods may be listed as follows:

1. Analysis of Markets.
2. Determination of Best Approach to Markets.
3. Establishment of Territories and Quotas and Required Number of Salesmen.
4. Salesmen's Compensation.
5. Cost of Marketing.
6. The Budget.
7. Inventory Control.

Analysis of the Market

An analysis of the market is the first step in laying the foundation of the regulation of sales. This analysis, in our case was based on an examination of the company's records as to:

1. Distribution of sales volume between distributors and direct accounts.
2. Geographical and transportation problems.
3. Classes of customers handled by various types of dealers.
4. Character as to preferred style, price, etc., of goods.
5. Underlying reasons impelling retailers to buy through distributors in one case or direct in another.
6. Determination of volume necessary to make an account advantageous, and vice versa.
7. Preliminary determination of normal retail price brackets for those products made in large volume.
8. Extent of demand for price merchandise. Other related items might be mentioned, but the above cover the most typical.

Other Information Sought

At this point, an outside consulting organization was called in to examine into some 17,000 retail outlets throughout the United States. Their investigators were instructed to gather information in each outlet as to:

1. Names of Buyers.
2. Character of Store: Large, Small, Good, Medium, Poor appearance, Etc.
3. Kinds of floor-coverings handled—Rugs, Carpets, Cut Carpet, Linoleum ,etc.
4. Names of brands of rugs and carpets carried.
5. Opinion of our sales policies, of our dealer advertising, of our consumer advertising, of styling.
6. Quantities of floor-covering handled annually or by seasons.

Replies to the investigators were found to be fairly accurate for the stores approached. Within a reasonable space of time, a background was thus established which indicated the character of the outlets, their sizes, goods carried, attitude to the company, and on similar related matters. On the basis of this investigation, there was set up a consumer's file planned not necessarily on the expectation of trying to sell so many outlets, but on a rather full knowledge of the entire national retail situation.

In the interim, a firm, skilled in such work, aided in examining thoroughly into the setup of all administrative and sales functions in order to obtain a check on whether the plans and measures already in effect or proposed were sound; and to determine on any other advantageous steps which they might uncover.

Well Rounded Form of Organization

This move was extremely satisfactory since it resulted in developing a well-rounded form of organization and of general methods. It also brought to light for the first time features of the market and organization which required attention. These measures, covering market analysis and company setup, led to another stage in the problem which may be briefly described by the term "approach."

In any sales program besides determining the market, it is necessary to lay out the best means for reaching that market. Included under this general subject are such vital matters as the determination of: the best locations for district sales offices; the limiting sizes and the number of natural trading centers with their locations and means of transportation; the number of men required to reach each class of customers; and, among many others; the separation of accounts into classes with reference to the number of calls required per season. Only the few typical items, as listed above, are mentioned for brevity's sake. Many related questions must be answered before deciding finally on the best approach to a market, since it is only by a reasonably thorough analysis of this sort that the handling of sales can be conducted economically.

However, that important question of the cost of reaching the market can be estimated only after these steps have been carried out. And obviously a company should, in general, pass over any part of a market which it cannot sell with a profit.

Classification of Data

Where it is expected to sell both direct and through distributors, it is readily noted that the approach to the market requires analysis of both methods of selling the particular product at hand. There is needed a classification of data, especially for a complicated line of merchandise, which will show as conclusively as possible, the way to correct distribution. For such classifications of information, our company found that the general methods used in cost calculations were quite as valuable as they are necessary in the final computation of estimated sales expense. Consequently, cost methods were utilized in determining the proper mode of distribution.

As a corollary to the determination of the best means for approaching a market, there must be made a general survey of the entire sales field in order to establish the proper sizes of the various districts, the assignment of territories to salesmen, and the remuneration of salesmen. Among the factors which influence such operations are the number of calls a man can make in each territory, the total number required per season, the average cost of traveling in each territory, and all related items. Based on a full knowledge of the quantitative effect of these factors, the final contribution has been made to the data necessary for figuring direct sales costs.

In this connection, no mention is made of determining the proper amount and kind of advertising or sales promotion effort to be used, since these activities cannot so readily be catalogued and analyzed as can direct sales expense items. Rather, both subjects must usually be treated on the basis of fixed appropriation believed to be correct for the purpose at hand. While, as stated above, it is generally not possible to determine exactly the proper ratio of advertising and promotional expense, there are obviously many factors known to any well-managed organization which indicate initially, the ratios required to support direct sales effort or to meet specific problems. Usually, the results of preliminary advertising and promotional work will establish the returns to be expected from efforts of this nature. When such results are known, it is then possible to add to sales costs a fixed percentage in order to cover the necessary promotional or advertising work. However, these items are established, and on whatever basis they are placed, both

advertising and promotional work must be figured into the sales costs.

Purposes Served

This introduces one of the most important subjects that any concern, confronted with present-day conditions in merchandising, can face. Back of all sales and production control lies the requirement for a budget. Even where the data for establishing a sound budget is, in part, lacking and assumptions must be made, it is nearly impossible to operate successfully without budgeting both sales and production activities. If sales have been reasonably well forecast, so as to fix the probable sales volume of each kind of goods made as well as the total volume, a budget serves, among others, the following purposes:

1. Permits the fixing of plant overhead on a proper basis for absorption into the costs of the goods to be produced.
2. Fixes the total of and the distribution of sales and administrative expense.
3. Makes it possible to arrange in advance and to figure into cost, if desired, any given amount of advertising and promotional expense.
4. Furnishes a standard for the costs of each department in the company against which may be checked the actual expenditures for each department. This dual function of the budget in furnishing, not only a course for steering, but also a standard of reference for keeping departmental costs in line is of outstanding importance.

Budget Brought Out Twice a Year

In our own case, a budget based on a careful study of the company's needs and of the probable volume of sales was established a number of years ago. It is now brought out twice a year, the sales volumes being forecast for each succeeding six months' period. It covers, among other items, the following points:

1. Cost of sales (manufacturing costs).
2. Direct sales expense.
3. Advertising.
4. Sales promotion.
5. Administrative Costs.

Under item No. 1, the same budget, when broken down, indicates the allotment and amounts of:

a. Mill Overhead.
b. Raw Materials.
c. Labor, direct and indirect.
d. Heat, light, process steam, power, etc.

The accuracy of a budget is of course, no better than that of the forecast of sales. The first trial is likely to be abortive the second fair, and the third much better. This is our own experience and tallies with the experience of many other companies.

The budget is and must be based entirely on cost methods. Once a forecast of the probable market has been made by the Sales Department, the setting up of a budget becomes purely cost work. In no more important phase of corporation management can a good cost department function than in this matter. We have found a budget to be absolutely essential.

In conclusion, something about our experience with inventory control may be of interest, that is, the control of finished goods rather than of process inventory. The latter is a subject sufficiently obvious and frequently given plenty of the limelight so that comment here is hardly necessary. The control of finished goods inventory must be such as to serve several purposes. These may be detailed as follows:

1. To provide a sufficient stock of those goods expected by the trade to be available for immediate delivery.
2. To cover adequately all grades, sizes, patterns, of the products made.

The finished goods inventory must be limited:

a. To require the minimum amount of investment consistent with Items No. 1 and No. 2.
b. To the minimum consistent with the economical order quantities required by the mills.

In the case of nuts and bolts, while this inventory problem is as important as in any industry, it happens to be simple. In the case of styled fabrics where sales can hardly be predicted for any particular pattern, where there are a dozen or more lines, and hundreds of separate patterns, each pattern being made in from six to ten sizes, the matter is complicated. Finished goods inventory then becomes of importance to the treasury, to sales, and to production alike. It also entails the use of costs to develop the minimum economical ordering quantity for each class of goods manufactured. Based on sales experience, the cost department must develop a charge to cover losses on drops or discontinued merchandise and imperfects. In fact, the application of cost methods to the control of finished goods inventory, at least for a complicated industry, is unavoidable from the start.

Our company, faced with this problem in about the form described, has so handled it. The results have been satisfactory and a logical basis for inventory control has been developed.

Finally, it may emphatically be repeated that merchandising at the present time requires the use of cost methods quite as much as does production. This must not be taken to indicate any leaning toward the "isms" of theorists, but rather toward the practical application of sound cost principles to selling and distribution expenses.

In Charge of Jacksonville Office

James D. Lacey & Co. announce that effective July 1, J. E. Woodman has been placed in charge of the Jacksonville, Fla., office of their subsidiary corporation, the James D. Lacey Company.

Mr. Woodman has been with the Lacey organization for twelve years and previous to this assignment was in charge of the larger cruising and forest engineering projects. His work has covered the eastern region from northern Quebec to central Florida. In connection with specific projects for individual owners aggregating more than nine hundred thousand acres, Mr. Woodman has had extensive experence in the South, including a regional investigation of a large portion of the southern pine belt to determine the availability and cost of certain classes of material. As part of his work during the past two years he has made the inventories and appraisals on two of the larger properties to be included in the Great Smoky Mountain National Park.

The established Lacey organization and timberland service in the Southeast will be strengthened and conducted with Jacksonville as the regional office under the general direction of Mr. E. A. Sterling, vice president and eastern manager, who will make his southern headquarters there. In addition to the long established and recognized lines of timber dealing, cruising, appraisals and consulting, the newer field of forest and operating management which the company has developed will be extended on a practical business basis. The depression has proven as never before the need of more complete knowledge and careful planning in timber ownership and conversion.

New York Trade Jottings

Robert F. Nelson, vice-president and general manager of the Glassine Paper Company, of West Conshohocken, Pa., was a New York visitor last week.

* * *

Charles W. Boyce, secretary of the American Paper and Pulp Association, with headquarters at 370 Lexington avenue, New York, is at present enjoying a hard earned vacation.

* * *

Manufacturers Corrugated Box Company, of Brooklyn, N. Y., has been incorporated under the laws of the State of New York, with a capital stock of $40,000. S. Toller, of 11 West 42nd street, New York, was the attorney.

* * *

The July outing of the Eastern Division of the Salesmen's Association of the Paper Industry, is to be held at the Dunwoodie Golf Club, Yonkers, N. Y., today, Thursday. Prizes will be awarded, one or two of which will be of a type that provides entertainment and gives even the poorest golf dub a good chance to win.

* * *

J. Morris Wilkinson, vice-president of Wilkinson Bros. & Co., Inc., general paper merchants, of 419-421 Broome street, New York, announces that he is no longer connected in any way with the Wilkinson-Grey Company. He requests anyone wishing to communicate with him to forward letters to his home at 400 Grand Avenue, Brooklyn, N. Y., when they will be forwarded to him while he is away on a vacation.

Moore & White Co. Changes

The Moore & White Company, builder of paper making machinery, Philadelphia, Pa., announces that John Roslund, formerly of the Baker Manufacturing Corporation, Saratoga Springs, N. Y., has joined the sales and engineering force of the company. Frank Schrier, formerly in charge of the drafting department for many years, is now connected with the sales force. W. L. Nixon, formerly connected with the sales and engineering department, is no longer connected with the company, having resigned July 1, 1931.

The company is about ready to complete the building of a 180-inch Fourdrinier paper machine for the Scott Paper Company and wishes to report that business in winders, lay boys and cutters is about normal for this time of the year.

United States Patent for Quick Wire Changing Fourdrinier has been granted June 22, 1931, and seventeen claims allowed.

To Manage Sales for Crocker-McElwain Co.

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., July 14, 1931.—Leo H. Hullett for the past five years sales manager for the Chemical Paper Manufacturing Company has been appointed sales manager for the Crocker-McElwain Company thus combining the sales activities of the two companies. Mr. Hulett has been connected with the paper industry for the past 16 years. Previous to coming to Holyoke he was with the A. M. Collins Manufacturing Company of Philadelphia for 11 years where he served as salesman, department executive, then sales manager and assistant to the president. He succeeds Gordon Blanchard who resigned to become sales manager for the Eaton Paper Company of Adams some weeks ago.

News Print Production for June

Production of news print paper in Canada during June 1931 amounted to 193,971 tons and shipments to 194,144 tons according to the News Print Bureau. Production in the United States was 101,086 tons and shipments 100,087 tons, making a total United States and Canadian news print production of 295,057 tons and shipments of 294,231 tons. During June, 25,220 tons of news print were made in Newfoundland and 1,453 tons in Mexico, so that the total North American production for the month amounted to 321,730 tons.

The Canadian mills produced 147,262 tons less in the first six months of 1931 than in the first six months of 1930, which was a decrease of 12 per cent. The output in the United States was 91,083 tons or 13 per cent. less than for the first six months of 1930. Production in Newfoundland was 4,782 tons or 3 per cent. more in the first six months of 1931 than in 1930 and in Mexico 459 tons less, making a continental decrease of 234,022 tons or 11 per cent.

During June the Canadian mills operated at 60.3 per cent. of rated capacity, United States mills at 67.8 per cent., Newfoundland mills at 99.6 per cent. and Mexican mills at 78.7 per cent., making a continental average of 64.6 per cent. Stocks of news print paper at Canadian mills totalled 39,832 tons at the end of June and at United States mills 33,906 tons, making a combined total of 73,738 tons which was equivalent to 4.1 days' average production.

Reforestation Activities

[FROM OUR REGULAR CORRESPONDENT]

CANTON, N. Y., July 13, 1931.—The annual summer report shows that reforestation activities this season in St. Lawrence county have progressed rapidly with plantings so far amounting to about 852,000 trees. The work is under the supervision of W. J. Endersbee, forester at St. Lawrence University. Of the entire total planted the report shows 431,000 white pine, 141,000 red pine, 110,000 Scotch pine, 90,000 white cedar, 53,000 Norway spruce, 25,000 European larch, and about 2,000 populars. About 907 acres are included in the forest lands in the county and the greater portion of the plantings have taken part in the eastern section.

The largest tract in the county is located in the town of Parish where about 197,000 seedlings have been planted on 220 acres. Two other large tracts are owned by the county in this township comprising about 182 acres with 142,000 plantings. Forty acres have been planted with 16,000 trees in the town of Hannibal while in the town of New Haven there is a lot with about 54,000 trees. In the town of Albion there are several plots, including one of 62 acres containing plantings of 65,000 trees, another of 146 acres with 132,000 trees, and a tract of 38 acres with 51,000 trees. The town of Williamstown also is the scene of considerable activity where about 148,000 trees have been laid out.

Champion Coated To Make Ground Wood

The Champion Coated Paper Company, Hamilton, Ohio, has ordered and will soon install equipment for the manufacture of ground wood pulp. This pulp will be used on the cylinder machine for the manufacture of such wood pulp boards as mill blanks and similar grades. In no case will ground wood be used in the manufacture of any of the Champion grades which have been standard for many years such as machine and English finish, super calendared book and coated papers.

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Rolled Phosphor Bronze and Copper Plates for Rotary Screens

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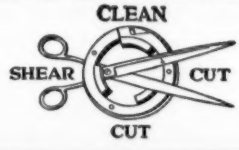

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IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING JULY 11, 1931

SUMMARY

Cigarette paper	433 cs.
Wall paper	3 bls., 41 cs.
Paper hangings	6 bls., 1 cs.
News print	5142 rolls
Printing paper	67 rolls, 57 cs.
Wrapping paper	8 cs.
Packing paper	2 rolls, 15 bls., 18 cs.
Decalcomania paper	10 cs.
Filter paper	204 bls., 30 cs.
Drawing paper	6 cs.
Filter masse	20 bls.
Colored paper	17 cs.
Transfer paper	2 cs.
Cover paper	4 cs.
Tissue paper	29 cs.
Surface coated paper	5 bls., 33 cs.
Baryta coated paper	150 cs.
Gold coated paper	6 cs.
Metal coated paper	165 cs.
Coated paper	41 cs.
Writing paper	27 cs.
Paste board	24 cs.
Card board	71 cs.
Miscellaneous paper	31 bls., 193 cs.

CIGARETTE PAPER

Standard Products Corp., France, Havre, 66 cs.
Standard Products Corp., Majestic, Southampton, 8 cs.
Brown & Williamson Tobacco Co., Majestic, Southampton, 12 cs.
Brown & Williamson Tobacco Co., Ile de France, Havre, 6 cs.
Champagne Paper Corp., Sarcoxie, Havre, 279 cs.
De Manduit Paper Corp., Sarcoxie, Havre, 60 cs.
——, St. Louis, Hamburg, 2 cs.

WALL PAPER

Guaranty Trust Co., A. Ballin, Hamburg, 23 cs.
Bendix Paper Co., A. Ballin, Hamburg, 6 cs.
A. C. Dodman Jr., Inc., Amer. Merchant, London, 3 bls.
R. F. Downing & Co., Majestic, Southampton, 2 cs.
F. Blank, St. Louis, Hamburg, 1 cs.
S. H. Pomerance, Franconia, Liverpool, 1 cs.
Bendix Paper Co., Hamburg, Hamburg, 8 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., Amer. Merchant, London, 4 bls.
A. C. Dodman Jr., Inc., Scythia, Liverpool, 2 bls.
S. Stern Stiner & Co., Ile de France, Havre, 1 cs.

NEWS PRINT

Perkins Goodwin & Co., Gen. von Steuben, Bremen, 42 rolls.
Jay Madden Corp., Gen. von Steuben, Bremen, 580 rolls.
——, A. Ballin, Hamburg, 273 rolls.
Perkins Goodwin & Co., A. Ballin, Hamburg, 179 rolls.
Baldwin Paper Co., A. Ballin, Hamburg, 154 rolls.
W. H. Bell, Markland, Liverpool, N. S., 3754 rolls.
Jay Madden Corp., St. Louis, Hamburg, 84 rolls.
——, Hamburg, Hamburg, 76 rolls.

PRINTING PAPER

E. Dietzgen & Co., Volendam, Rotterdam, 18 cs.
C. Steiner, Gen. von Steuben, Bremen, 10 cs.
Japan Paper Co., Gen. von Steuben, Bremen, 8 cs.
Armour & Co., A. Ballin, Hamburg, 67 rolls.
Japan Paper Co., Columbus, Bremen, 2 cs.
Japan Paper Co., Berengaria, Southampton, 1 cs.
Bush Service Corp., Hamburg, Hamburg, 14 cs.
Keller Dorian Paper Co., Pr. Hayes Marseilles, 4 cs.

WRAPPING PAPER

F. C. Strype, Lapland, Antwerp, 5 cs.
Sylvania Industrial Corp., Lapland, Antwerp, 1 cs.
Japan Paper Co., Lapland, Antwerp, 2 cs.

PACKING PAPER

Henschel Naeve & Co., Gen. von Steuben, Bremen, 15 bls.
Atlantic F'd'g Co., A. Ballin, Hamburg, 18 cs.
Freedman & Slater, France, Havre, 2 rolls.

DECALCOMANIA PAPER

C. W. Sellers, Europa, Bremen, 9 cs.
C. W. Sellers, A. Ballin, Hamburg, 1 cs.

FILTER PAPER

Schliemanns Co. Inc., A. Ballin, Hamburg, 2 bls.
J. Manheimer, Majestic, Southampton, 200 bls.
H. Reeve Angel & Co., Inc., Franconia, Liverpool, 18 cs.
C. Schleicher Schull Co., Hamburg, Hamburg, 12 cs., 2 bls.

DRAWING PAPER

H. Reeve Angel & Co., Inc., Franconia, Liverpool, 3 cs.
Winsor Newton, Inc., Franconia, Liverpool, 3 cs.

FILTER MASSE

A. Giese & Son, A. Ballin, Hamburg, 20 bls.

COLORED PAPER

S. Gilbert, Gen. von Steuben, Bremen, 5 cs.
W. Bersch, A. Ballin, Hamburg, 11 cs.
D. T. Young, Hamburg, Hamburg, 1 cs.

TRANSFER PAPER

Fuchs & Lang Manfg. Co., Pr. Harding, Hamburg, 2 cs.

COVER PAPER

International F'd'g Co., St. Louis, Hamburg, 4 cs.

TISSUE PAPER

Atlantic F'd'g Co., Hamburg, Hamburg, 1 cs.
P. J. Schweitzer, Pr. Hayes, Marseilles, 28 cs.

SURFACE COATED PAPER

H. Fuchs & Son, Volendam, Rotterdam, 2 cs.
Gevaert Co. of America, Lapland, Antwerp, 29 cs.
Phoenix Shipping Co., Hamburg, Hamburg, 5 bls., 2 cs.

BARYTA COATED PAPER

Globe Shipping Co., Gen. von Steuben, Bremen, 100 cs.
Globe Shipping Co., Columbus, Bremen, 50 cs.

GOLD COATED PAPER

F. Murray Hill Co., Gen. von Steuben, ——, 6 cs.

METAL COATED PAPER

K. Pauli Co., Gen. von Steuben, Bremen, 19 cs.
Independent F'd'g Co., A. Ballin, Hamburg, 1 cs.
——, A. Ballin, Hamburg, 20 cs.
Globe Shipping Co., A. Ballin, Hamburg, 18 cs.
K. Pauli Co., A. Ballin, Hamburg, 19 cs.
K. Pauli Co., Hamburg, Hamburg, 86 cs.
Globe Shipping Co., Columbus, Bremen, 2 cs.

COATED PAPER

W. A. Foster & Co., Amer. Merchant, London, 5 cs.
Happel & McAvoy, Hamburg, Hamburg, 36 cs.

WRITING PAPER

Strauss Bros. & Co., Scythia, Liverpool, 1 cs.
American Express Co., Sarcoxie, Havre, 4 cs.
J. Horne Co., Sarcoxie, Havre, 15 cs.
Japan Paper Co., Saturnia, Trieste, 7 cs.

PASTE BOARD

H. Hei de, Inc., Gen. von Steuben, Bremen, 19 cs.
C. W. Sellers, Ile de France, Havre, 5 cs.

CARD BOARD

Gevaert Co. of America, Lapland, Antwerp, 6 cs.
Person & Weidhorn, A. Ballin, Hamburg, 4 cs.
Japan Paper Co., Amer. Merchant, London, 3 cs.
American Express Co., Hamburg, Hamburg, 58 cs.

MISCELLANEOUS PAPER

Steiner Paper Co., Volendam, Rotterdam, 46 cs.
——, Gen. von Steuben, Bremen, 27 cs.
National Freighting Co., Gen. von Steuben, Bremen, 8 bls.
Phoenix Shipping Co., A. Ballin, Hamburg, 22 bls.
Selzi & Co., France, Havre, 1 cs.
Japan Paper Co., Pr. Pierce, Kobe, 11 cs.
Shima Art Co, Pr. Pierce, Koke, 2 cs.
T. N. Fairbanks, Co., Pr. Pierce, Kobe, 10 cs.
Japan Paper Co., Pr. Harding, Hamburg, 2 bls.
Hilton Co., Wytheville, Rotterdam, 1 ble.
R. Wilson Paper Corp., Cameronia, Glasgow, 59 cs.
P. H. Petry & Co., Ile de France, Havre, 10 cs.
Keller Dorian Paper Co., Ile de France, Havre, 10 cs.
S. Bienfang, Columbus, Bremen, 17 cs.

RAGS, BAGGINGS, ETC.

S. Birkenstein & Son, Amer. Merchant, London, 126 bls. paper stock.
——, A. Ballin, Hamburg, 41 bls. rags.
——, Amer. Merchant, London, 40 bls. paper stock.
——, Pr. Harding, Hamburg, 45 bls. paper stock.
Banco Coml Italiane Trust Co., Pr. Harding, Hamburg, 154 bls. cotton waste.
Chase National Bank, Wytheville, Rotterdam, 87 bls. rags.
Banco Coml Italiane Trust Co., Wytheville, Rotterdam, 9 bls., cotton nappers.
——, Cameronia, Glasgow, 38 bls. rags.
T. D. Downing & Co., Cameronia, Glasgow, 163 bls. rags.
J. Cohen Son Co., Scythia, Liverpool, 12 bls. rags.
Baring Bros. & Co., London Corp., London, 100 bls. rags.
J. Cohen Son Co., Sarcoxie, Havre, 11 bls. rags.
Darmstadt Scott & Courtney, Sarcoxie, Havre, 123 bls. jute waste.
V. Galaup, Sarcoxie, Havre, 47 bls. rags.
Chase National Bank, Sarcoxie, Dunkirk, 109 bls. jute waste.
Kidder Peabody Accep. Corp., Augvald, Barcelona, 75 bls. bagging.
Bank of N. Y. & Trust Co., Augvald, Barcelona, 200 bls. bagging.
Royal Manfg. Co., Lafayette, Havre, 20 bls. thread waste.
Arkus Inc., Innoko, Antwerp, 66 bls. rags.
——, Volendam, Rotterdam, 43 bls. old prints.

OLD ROPE

Banco Coml Italiane Trust Co., Gen. von Steuben, Bremen, 200 bls.
International Purchasing Co., Excalibur, Genoa, 160 bls.

CASEIN

T. M. Duche & Son, Southern Prince, B. Ayres, 834 bags, 50040 kilos.

WOOD PULP

Irving Trust Co., Gen. von Steuben, Bremen, 1050 bls. wood pulp.
G. S. Kerr Co. Ltd., Dampfire, Richibucto, 1200 cords pulpwood.
Castle & Overton, Inc., St. Louis, Hamburg, 135 bls. wood pulp, 27 tons.
Brown Bros. Harriman & Co., Karachi Maru, Hamburg, 508 bls. sulphite, 76 tons.
Castle & Overton, Inc., Hamburg, Hamburg, 1239 bls. wood pulp, 248 tons.
M. Gottesman & Co. Inc., Maria, Sebenico, 4120 bls. wood pulp.

WOOD FLOUR

Trust Co. of New Jersey, Volendam, Rotterdam, 500 bags.
The Burnet Co., Volendam, Rotterdam, 400 bags.
State Chemical Co., Wytheville, Rotterdam, 580 bags.

(Continued on page 58)

LAND O'LAKES CASEIN

High quality Casein made under strict laboratory control. Excellent solubility. Satisfactory viscosity. Write for sample and quotations.

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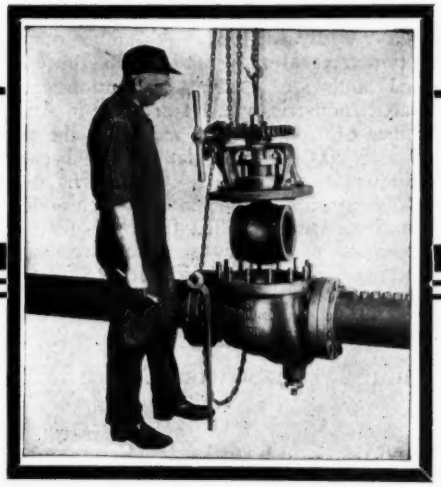

Continuous operation in paper mills demands quick replacements to all equipment.
SPHERO VALVES are easily repaired without detaching the body from the pipe line.
Lever type in sizes ½-in. to 4-in. Gear type in sizes 4-in., 6-in. and 8-in. For 200 Pounds Steam Working Pressure.

Write for Bulletin V-103

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111 West Washington St.

Acer, McLernon & Company Limited

CANADA CEMENT BUILDING
MONTREAL, P. Q.

Imports of Paper and Paper Stock

(Continued from page 56)

BOSTON IMPORTS

WEEK ENDING JULY 11, 1931

A. H. Searle Co., Cameronia, Glasgow, 7 bls. paper stock.
——, Cameronia, Glasgow, 52 bls. paper stock.
G. F. Malcolm, Scythia, Liverpool, 14 cs. tissue paper.
D. M. Hicks, Inc., Innoko, Antwerp, 74 bls. paper paste.
Katzenstein & Keene, Inc., Innoko, Antwerp, 70 bls. rags.
H. P. Lambert, Innoko, Antwerp, 107 bls. rags.
Irving Trust Co., Innoko, Antwerp, 83 bls. bagging.
F. J. Fawcett, Innoko, Antwerp, 150 bls. flax waste.
Spaulding Fibre Co., Innoko, Antwerp, 856 bls. flax waste.
Brown Bros. Harriman & Co., Innoko, Antwerp, 67 coils old rope.
E. J. Keller Co. Inc., Innoko, ——, 56 bls. rags.

BALTIMORE IMPORTS

WEEK ENDING JULY 11, 1931

S. Shapiro & Sons, Sarcoxie, Dunkirk, 159 bls. rags.
Russell McCandless, Kelkhiem, Karlsborg, 625 bls. kraft pulp.

PHILADELPHIA IMPORTS

WEEK ENDING JULY 11, 1931

Brown Bros. Harriman & Co., London Corp., London, 101 coils old rope.
Baring Bros. & Co., London Corp., London, 79 coils old rope; 197 bls. rags.
——, London Corp. London, 373 bls. rags.
S. Birkenstein & Son, Cabo Espartel, Malaga, 273 coils old rope.
International Trust Co., Augvald, Barcelona, 58 bls. rags.
Marine Midland Trust Co., Augvald, Barcelona, 130 bls. rags.
Castle & Overton, Inc., Innoko, Atnwerp, 157 bls. rags.
E. Butterworth & Co. Inc., Innoko, Antwerp, 48 bls. bagging.
True & McClelland, Innoko, Antwerp, 225 bls. bagging.
Katzenstein & Keene, Inc., Innoko, Antwerp, 204 bls. rags.

NORFOLK IMPORTS

WEEK ENDING JULY 11, 1931

E. Butterworth & Co. Inc., Sarcoxie, Havre, 129 bls. bagging.
N. Y. Trust Co., Sarcoxie, Havre, 55 bls. bagging.

American Tissue Mills Make New Line

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., July 14, 1931.—The Cushman mill of the American Tissue Mills Inc., located in Amherst has been reopened for the manufacture of a line of novelties that has been developed by this company. It had previously been closed for some little time. These novelties are designed for use in bridge parties, banquets and celebrations of various kinds and include paper hats, noisemakers, and various kinds of favors made out of crepe papers.

The company's new line of Velvo Facial Tissue which until recently has been made in limited extent is now getting into large production. It is used in homes, hospitals and beauty parlors. The concern has also renewed the manufacture of confetti and this is supplemented by a line of shredded crepe paper.

Feeder Canal Has Quiet Season

GLENS FALLS, N. Y., July 13, 1931.—The feeder canal in this section is experiencing a very quiet season and nothing is afloat west of Hudson Falls except consignments of pulpwood which are run through the canal daily to mills hereabouts. Finch, Pruyn & Co. are now using motor trucks in transportation of their products from the terminal at Fort Edward to this city with the result that not any canal boats are being operated out of this city over the feeder canal. It is hardly likely that the canal will ever be abandoned despite the fact that shipments over the route have been reduced to a minimum and plans are now under way for extensive improvements. Next year will mark the 100th anniversary of the feeder canal which has been enlarged considerably since that time.

Oswego Board Corp. Goes on Full Time

OSWEGO, N. Y., July 13, 1931.—Announcement is made that the Oswego Board Corporation will return to full time because of improved business conditions. Original plans called for the return to capacity operations about the middle of next month but these were altered because of the low supply of stock on hand. The company produces a building board, fabricated from wood, and increasing demand is said to be responsible for exhausting the supply in the warehouses. The firm is controlled by the St. Regis Paper Company and has expanded rapidly in recent years.

To Enter Accident Prevention Campaign

[FROM OUR REGULAR CORRESPONDENT]

UTICA, N. Y., July 13, 1931.—A number of paper mills in this section have already made plans for entering the next annual statewide accident prevention campaign of the Associated Industries which starts late in August. The local Chamber of Commerce is aiding in the preliminary plans and over 200 entrance blanks have been requested for local industries. About 1,400 concerns in the state were listed as entrants in the contest which ended recently and 182 concerns were enrolled from this section. These accident prevention campaigns have already proven of great benefit and injuries are reduced to a minimum in many of the large industrial establishments in the state as a result.

Shut Down Schroon River Mill

[FROM OUR REGULAR CORRESPONDENT]

WARRENSBURG, N. Y., July 14, 1931.—Operations have been suspended at the plant of the Schroon River Pulp and Paper Company for an indefinite period. The shutdown, however is customary at this time of the year and it is said that the equipment will be overhauled. It is expected that the plant will be ready for operations again before the end of the summer. The reason for the shutdown could not be learned but it is a well known fact that low water conditions in the Schroon River have greatly hampered production in recent months, especially in the pulp wood departments where the grinders have been compelled to stop running on several occasions.

Forest Conservation in Wisconsin

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., July, 13, 1931.—Another step in forest conservation will be taken soon when three county forests are established in Oneida County, to be known as the Enterprise, Monico and Minocqua tracts. The lands are tax delinquent and will be taken over by the county, blocked up as forest lands, and entered under the state forest law. The state will pay the county ten cents per acre annually so the townships will derive some revenue from lands not formerly contributing to governing expense. The county forest plan is coming into extensive use in northern counties to overcome the tax delinquency situation and add to the conservation program.

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New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, July 15, 1931.

Midsummer dullness prevails in practically all divisions of the local paper market. Demand for the various standard grades of paper is light. Salesmen of the local paper organizations are mostly relaxing their efforts preparatory to initiating a strenuous campaign for Fall business in the near future. Prices are generally holding to previously recorded levels.

The position of the news print market is practically unchanged. According to information gathered by the News Print Service Bureau, production in the United States and Canada during June amounted to 295,057 tons and shipments to 294,231 tons. The output of news print in Newfoundland totalled 25,220 tons, and in Mexico 1,453 tons.

Trading in the paper board market was only moderately active during the past week. Box board sales were below a year ago. Prices are fairly steady. The fine paper market is rather dull at present, although inquiries for future account are fairly numerous. Prices remain unchanged. The coarse paper market is irregular, although summer specialties are in excellent request.

Mechanical Pulp

Demand for imported and domestic ground wood pulp is somewhat restricted. The contract movement is mainly seasonal. Prices are easier. No. 1 imported moist mechanical pulp is now quoted at from $26 to $28 per ton, on dock. Domestic No. 1 is selling at from $25 to $30 f.o.b. pulp mill. Offerings are about sufficient to take care of current requirements.

Chemical Pulp

The chemical pulp market is experiencing a quiet period just now. Several price changes have been reported. No. 1 imported strong unbleached sulphite is now quoted at from $1.90 to $2.25 and Mitcherlich unbleached at from $2 to $2.25 per 100 pounds, on dock, Atlantic ports. Domestic easy bleaching sulphite is selling at from $2.50 to $2.75, f.o.b. pulp mill.

Old Rope and Bagging

Little interest is being displayed by the paper mills at present in the old rope market. Demand for both imported and domestic old manila rope is very light. Small mixed rope continues dull. The bagging market is fairly active. Scrap bagging is moving in good volume. Roofing bagging is in seasonal request. Gunny bagging is somewhat easier.

Rags

Conditions in the domestic rag market are not much changed. With the paper mills generally working short time, consumption of raw material is restricted and demand is not expected to expand materially before early Fall. Cotton cuttings are going forward to the mills in moderate volume. Roofing rags are in seasonal request with prices steady to firm. Mixed rags are fairly active.

Waste Paper

Improvement of the paper stock market is well maintained. The board mills are displaying interest in the lower grades of waste paper, especially in No. 1 mixed paper, which is decidedly firm, with offerings limited. Old kraft machine compressed bales are in good request. Demand for ledger stock is gradually improving. Hard and soft white shavings continue steady.

Twine

Most of the business transacted in the local twine market during the past week was along routine lines. Sales were less than a year ago, although local dealers anticipate a gradual improvement in demand from now until the end of the year. Prices are holding up fairly well despite keen competition for extra desirable orders.

Fraser Companies Meet Interest Needs

Fraser Companies, of Edmundston, N. B., have deposited with the banks a sum sufficient to cover the half-yearly interest payment on their 6 per cent bonds. It is stated that the paper mills are showing better results, although conditions in the pulp and lumber markets remain unsatisfactory. The management is working on a plan of reorganization, which is expected to bring its present structure more in line with earning power. Operations last year, after all charges, resulted in a loss of $4,219,407.

This was due to heavy losses in lumbering operations and a poor pulp market. The new Athol mill of the Restigouche Company, which came into production in May, 1930, with an output of bleached sulphite pulp, only operated at 47 per cent of capacity.

May Start Box Factory at Monroe, Wash.

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., July 11, 1931.—A report is current that the old Carnation plant at Monroe, Wash., may be taken over by a company interested in starting a paper box factory.

D. J. Eagleton, Seattle engineer, has been in Monroe in recent weeks conferring with Mayor J. J. Cretney and collecting data. It is said he has returned a favorable report on the property which is served by spur lines of the Great Northern and Milwaukee railroads.

New Combine Represents Kalbfleisch

Announcement is made of the formation of Dillons-Klipstein, Limited of Montreal, Canada. After July 1 this organization will act as sales representatives in the Canadian territory for the Kalbfleisch Corporation, in the sale of its products to the paper, textile and other industries.

The combination represents the business of Dillons Limited and A. Klipstein & Co., Ltd., of Canada.

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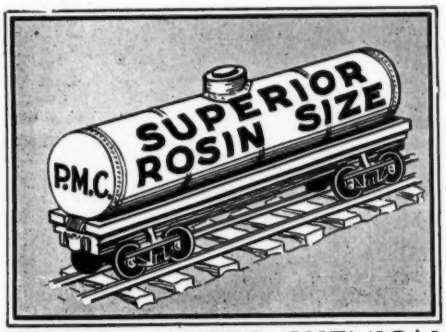

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Cylinder Molds—Marshall Drives—Slitters and Rewinders—Reels—Dryers with Improved Packing Boxes—Wet Machines—Gun Metal and Rubber Rolls—Rolls Reground.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, July 15, 1931.

BLANC FIXE.—The position of the blanc fixe market is practically unchanged. Prices are holding to schedule. The pulp is quoted at from $42.50 to $45 per ton; while the powder is selling at from 3¾ cents to 3½ cents per pound, in barrels, at works.

BLEACHING POWDER.—Trading in the bleaching powder market was only moderately active during the past week. The contract movement is seasonal. Prices are steady and unchanged. Bleaching powder is quoted at from $2 to $2.35 per 100 pounds, in drums, at works.

CASEIN.—The casein market continues easy. Domestic standard ground is quoted at 6 cents and finely ground at 7½ cents per pound. Argentine standard ground is selling at 8½ cents and finely ground at 9½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Conditions in the caustic soda market are fairly satisfactory. Prices remain unchanged. Solid caustic soda is quoted at from $2.50 to $2.55; while the flake and the ground are selling at from $2.90 to $2.95 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is fairly active. Offerings are sufficient to take care of current requirements. Imported china clay is still quoted at from $13 to $21 per ton; while domestic paper making clay is selling at from $7 to $11 per ton, at mine.

CHLORINE.—Steadiness prevails in the chlorine market. The contract movement is well up to average for the time of year. Prices are generally holding to schedule. Chlorine is selling at $1.75 per 100 pounds, in tanks, or multi-unit cars, in large drums, at works.

ROSIN.—The rosin market is weaker. Grades of gum rosin used in the paper mills are quoted at from $4.65 to $4.80 per 280 pounds, in barrels, at yards. Wood rosin is selling at $4.30 per 280 pounds, in barrels, car lot quantities, at southern shipping points.

SALT CAKE.—Demand for salt cake is fairly persistent. Prices are holding to previously recorded levels. Salt cake is quoted at from $16 to $17 and chrome salt cake at from $14 to $15 per ton, in bulk, at works. Foreign salt cake is offered at from $15 to $15.50, ship side.

SODA ASH.—The soda ash market was rather quiet during the past week. Supplies are moving into consumption in fair volume. Prices are unchanged. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1; in bags, $1.15; and in barrels, $1.38.

STARCH.—Most of the business transacted in the starch market was along routine lines. Contract shipments are going forward in good volume. Prices remain unchanged. Special paper making starch is quoted at $2.67, in bags; and at $2.94 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—The sulphate of alumina market is exhibiting a strong undertone. Prices are holding to schedule. Commercial grades are quoted at from $1.25 to $1.40; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues steady. Sulphur is quoted at $18 per long ton on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Seasonal conditions prevail in the talc market. Demand is somewhat restricted and the contract movement is light. Domestic talc is still quoted at from $16 to $18 per ton, in bulk; while imported talc is selling at from $18 to $22 per ton, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@	38.00
Bonds	6.75	@	53.25
Writings—			
Extra Superfine	14.00	@	32.00
Superfine	14.00	@	32.00
Tub sized	10.00	@	15.00
Engine sized	6.75	@	11.00
Book, Cased—			
S. & S. C.	5.25	@	—
M. F.	5.00	@	—
Coated and Enamel	6.75	@	10.25
Lithograph	7.25	@	11.75
Tissues—Per Ream—			
White No. 1	.65	@	.70
Anti-Tarnish M. G. only	.65	@	.70
Colored	.70	@	.90
White No. 2	.55	@	.60
Kraft	.65	@	.70
Manila	.55	@	.60
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.09¾	@	—
No. 2	.11¼	@	—
Bleached, basis 20 lbs.	.11¾	@	—
(Delivered New York)			
News, per ton—			
Rolls, contract	57.00	@	—
Rolls, spot	57.00	@	—
Sheets	62.00	@	—
Side Runs	42.00	@	46.00
Kraft—			
No. 1 Domestic	4.25	@	5.30
No. 2 Domestic	3.75	@	4.25
Southern	3.50	@	4.00
Imported	6.00	@	7.00
Boards—per ton—			
News	30.00	@	32.50
Straw	40.00	@	45.00
Chip	27.50	@	30.00
Binders' Boards	65.00	@	70.00
Standard 85 Test Liner	32.50	@	35.00
Sgl. Mla. Ll. Chip	40.00	@	42.50
(F. o. b. Mill)			
Wood Pulp Boards	70.00	@	80.00

Mechanical Pulp

(On Dock)

No. 1 Imported—			
Moist	26.00	@	30.00
Dry	26.00	@	28.00
(F. o. b. Mill)			
No. 1 Domestic	25.00	@	30.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	2.50	@	3.50
Easy Bleaching	2.15	@	2.35
No. 1 strong unbleached	1.90	@	2.25
Mitscherlich unbleached	2.00	@	2.25
No. 2 strong unbleached	1.80	@	2.00
No. 1 Kraft	1.50	@	1.70
No. 2 Kraft	1.35	@	1.50
Sulphate—			
Bleached	2.75	@	3.25
(F. o. b. Pulp Mill)			
Sulphite (Domestic)—			
Bleached	2.25	@	4.75
Easy Bleaching	2.50	@	2.75
News	1.80	@	2.50
Mitscherlich	2.40	@	3.00
Kraft (Domestic)	1.60	@	2.75
(Delivered Paper Mills)			
Soda Bleached	3.00	@	—

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	7.00	@	7.45
New White, No. 2	6.00	@	6.50
Silesias No. 1	5.25	@	5.50
New Unbleached	7.25	@	7.75
New Blue Prints	4.00	@	4.50
New Soft Blacks	3.50	@	4.00
Blue Overall	5.25	@	5.50
Fancy	3.50	@	3.75
Washables	3.00	@	3.25
Mixed Khaki Cuttings	3.75	@	4.25
Pink Corset Cuttings	5.50	@	6.00
O. D. Khaki Cuttings	4.75	@	5.00
Men's Corduroy	3.00	@	3.50
New Mixed Blacks	3.00	@	3.25

Old Rags

White, No. 1—			
Repacked	5.25	@	5.75
Miscellaneous	4.25	@	4.75
White, No. 2—			
Repacked	3.00	@	3.50
Miscellaneous	2.30	@	2.50
St. Soiled, White	1.50	@	1.75
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.65	@	1.85
Black Stockings	3.25	@	3.75
Roofing Rags—			
Cloth Strippings	1.25	@	1.30
No. 1	1.25	@	1.30
No. 2	.90	@	1.00
No. 3	.70	@	.80
No. 4	.65	@	.70
No. 5A	.50	@	.60

Foreign Rags

New Rags

New Dark Cuttings	2.00	@	2.15
New Mixed Cuttings	2.10	@	2.40
New Light Silesias	5.00	@	5.38
Light Flannelettes	5.00	@	5.25
Unbleached Cuttings	7.00	@	7.50
New White Cuttings	6.50	@	6.75
New Light Oxfords	5.00	@	5.50
New Light Prints	3.50	@	3.75

Old Rags

No. 1 White Linens	6.50	@	6.75
No. 2 White Linens	5.75	@	5.25
No. 3 White Linens	4.00	@	4.50
No. 4 White Linens	2.50	@	3.00
No. 1 White Cotton	4.50	@	5.00
No. 2 White Cotton	3.50	@	4.25
No. 3 White Cotton	2.50	@	3.25
No. 4 White Cotton	1.50	@	1.75
Extra Light Prints	2.50	@	2.75
Ord. Light Prints	2.00	@	2.25
Med. Light Prints	1.65	@	1.75
Dutch Blue Cottons	1.80	@	1.90
French Blue Linens	2.50	@	2.60
German Blue Linens	2.25	@	2.40
German Blue Cottons	1.75	@	1.85
Checks and Blues	1.60	@	1.75
Lindsay Garments	1.10	@	1.20
Dark Cottons	.75	@	.80
Old Shopperies	.70	@	.75
New Shopperies	.70	@	.75
French Blues	1.80	@	1.90

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.65	@	1.80
Domestic	1.65	@	1.80
Wool Tares, light	1.25	@	1.30
Wool Tares, heavy	1.25	@	1.30
Bright Bagging	1.20	@	1.30
Small Mixed Rope	.90	@	1.00
Manila Rope—			
Foreign	2.00	@	2.15
Domestic	2.10	@	2.2[illegible]
New Burlap Cut	1.80	@	1.90
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
Hard, white, No. 1	2.75	@	2.85
Hard, white, No. 2	2.20	@	2.30
Soft, white, No. 1	2.20	@	2.30
White envelope cuttings	2.60	@	2.70
Flat Stock—			
Stitchless	.85	@	.95
Overissue Mag	.85	@	.95
Solid Flat Book	.75	@	.85
Crumpled No. 1	.60	@	.65
Solid Book Ledger	1.75	@	1.85
Ledger Stock	.80	@	.85
New B. B. Chips	.20	@	.30
Manilas—			
New Env. Cut	2.00	@	2.20
New Cuttings	1.50	@	1.65
Extra No. 1 old	1.20	@	1.30
Print	.50	@	.60
Bogus Wrapper	.50	@	.60
Container	.25	@	.30
Old Kraft Machine—			
Compressed bales	1.10	@	1.20
News—			
No. 1 White News	1.60	@	1.70
Strictly Overissue	.40	@	.45
Strictly Folded	.30	@	.3[illegible]
No. 1 Mixed Paper	.20	@	.25
Common Paper			Nominal

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AGENTS

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Twines

(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finished Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.13	@	—
No. 2	.11	@	—
Tube Rope—			
4-ply and larger	.09	@	—
Fine Tube Rope—			
4-ply	.11	@	—
3-ply	.12	@	—
2-ply	.13	@	—
Paper Makers Twine			
Balls	.07	@	—
Box Twine, 2-3 ply	.07	@	.08
Jute Rope	.09	@	.10
Amer. Hemp, 6	.27	@	.29
Java Sisal—			
No. 1 Basis	.10	@	—
No. 2 Basis	.09	@	—
New Zealand Sisal	.10	@	—
Sisal Lath Yarn—			
No. 1	.12	@	.14
No. 2	.10	@	.12
Manila Twine	.21	@	.22

CHICAGO

Paper

(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	5.00	@	5.50
Southern Kraft	3.75	@	4.00
No. 2 Kraft	3.75	@	4.00
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¾
Manila Tissue	.07	@	.07¼
White Tissue	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	30.00	@	35.00
Solid News	32.50	@	37.50
Manila Lined Chip	40.00	@	45.00
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 Hard White. White Env. Cuttings	2.35	@	2.40
	—	@	—
No. 1 Soft Shavings	2.10	@	2.15
Ledger & Writings	.70	@	.75
Solid Books	.75	@	.80
Blanks	1.60	@	1.65
Krafts	1.25	@	1.35
New Kraft Cuts	1.35	@	1.45
Manila Env. Cuts	1.50	@	1.55
Ex. No. 1 Manila	1.25	@	1.30
Print Manila	.40	@	.45
Overissue News	.40	@	.45
Old Newspapers—			
No. 1	.35	@	.40
No. 2	.30	@	.35
Mixed Papers—			
No. 1	.28	@	.30
No. 2	.20	@	.25
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper

(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.07	@	.40
Writings—			
Superfine	.12	@	.18
Extra fine	.16	@	.22
Fine	.15	@	.26
Fine, No. 2	.13½	@	.25
Fine, No. 3	.08½	@	.20
Book, M. F.	.05	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.08	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.03¼	@	.05½
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03¾	@	.04¼
Southern Kraft No. 1	—	@	.03¾
Southern Kraft No. 2	—	@	.03¾
Common Bogus	.03	@	.04
(Delivered Philadelphia)			
News Print Rolls	62.00	@	—
Straw Board	50.00	@	—
News Board	29.00	@	30.00
Chip Board	27.50	@	—
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00	@	—
No. 2, per ton	68.00	@	—
Carload lots	66.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1.	.06	@	.07
New White, No. 2.	.05½	@	.06
Light Silesias	.05	@	.05½
Silesias, No. 1	.06	@	.08
Black Silesias, soft.	.05	@	—
New Unbleached	.06½	@	.07
Washable, No. 1	.03	@	.03½
Blue Overall	.05	@	.05½
Cottons—According to grades—			
Washable, No. 2	.02	@	.02½
New Blue	.02	@	.02½
Fancy	.03½	@	—
New Black Soft	.03	@	.03½
New Light Seconds	.01¾	@	.02
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.04½	@	.05
No. 2 Mixed	.03½	@	.04
Corduroy	.02½	@	.03
New Canvas	.06½	@	.07
New Black Mixed.	.03	@	.03½

Domestic Rags (Old)

White No. 1—			
Repacked	3.50	@	4.00
Miscellaneous	2.50	@	3.00
M. G.	4.50	@	—
Thirds and Blues—			
Miscellaneous	1.25	@	1.50
Repacked	1.75	@	2.00
Black Stockings (Export)	3.80	@	4.00
Roofing Stock—			
Foreign No. 1	1.15	@	1.25
Repacked	.80	@	.90

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	2.50	@	2.75
Sisal Rope	1.25	@	1.50
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White.	2.30	@	2.35
No. 2 Hard White.	2.00	@	2.05
No. 1 Soft White.	1.75	@	1.85
No. 2 Soft White.	1.30	@	1.45
No. 1 Mixed.	.75	@	.80
No. 2 Mixed.	.50	@	.55
Solid Ledger Stock.	1.25	@	1.30
Writing Paper.	.70	@	.80
No. 1 Books, heavy.	.75	@	.80
No. 2 Books, light.	Normal		
No. 1 New Manila.	1.60	@	1.75
No. 1 Old Manila.	1.25	@	1.30
Print Manila	.40	@	.50
Container Manila	.40	@	.45
Old Kraft	.90	@	1.05
Common Paper	.20	@	.25
No. 1 Mixed Paper.	.25	@	.30
Straw Board, Chip.	.35	@	.40
Binders Board. Chip.	.35	@	.45
Corrugated Board	.40	@	.45
Overissue News.	.35	@	.40
Old Newspaper	.25	@	.30

BOSTON

Paper

(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag Content	.15	@	.30
All Rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11⅛
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04½	@	.05½
No. 2 Kraft	.03¾	@	.04½
(F. o. b. Boston)			
Southern Kraft	.03½	@	.03¾
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)			
Common Bogus	.02	@	.02¾
(Delivered New England points)			
News Print, rolls	61.50	@	—
Straw Board, rolls	.009	—	@52.50
Straw Board in Sheets, basis 35s to 70s	—	@	50.00
Filled News Board	32.50	@	—
Chip Board	27.50	@	—
Chip Board (Creasing)	32.50	@	—
Single Manila Lined Chip	40.00	@	45.00
Single White, Patent Coated News Board—			
Binder, No. 1	60.00	@	75.00
Binder, No. 2	55.00	@	65.00
Wood Pulp Board	75.00	@	80.00
Binder Boards	67.50	@	75.00

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.50	@	2.60
No. 1 Soft White	2.25	@	2.40
No. 2 Mixed	.60	@	.65
No. 1 Mixed	.90	@	1.00
Solid Ledger Books	1.75	@	2.00
Overissue Ledger Stock	1.35	@	1.60
Mixed Ledgers	1.15	@	1.30
No. 1 Books, heavy	.75	@	.90
No. 1 Books, light	—	@	.45
Crumpled Stitchless Book Stock	1.00	@	1.25
Manila Env. Cuttings	1.85	@	2.00
No. 1 Old Manila	—	@	1.00
White Blank News	1.50	@	1.60
Kraft No. 1	—	@	1.15
Manila	.80	@	.90
No. 1 Mixed Paper	—	@	.16
Print Manila	.35	@	.40
Overissue News	—	@	.40
Old Newspapers	.25	@	.30
Box Board, Chip	.16	@	.20
Corrugated Boxes	.35	@	.45

Bagging

(F. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.80
Domestic	1.50	@	1.60
Manila Rope—			
Foreign	—	@	1.75
Domestic	—	@	2.25
Transmission Rope	1.40	@	1.50
Mixed String	.50	@	.55
Jute Rope	1.00	@	1.15
Jute Carpet Threads	.75	@	.90
Bleachery Burlap	2.50	@	2.75
No. 1 Scrap Burlap	1.10	@	1.25
Scrap Sisal	1.35	@	1.45
Scrap Sisal for shredding	1.50	@	1.60
Wool Tares, heavy	1.25	@	1.30
New Burlap Cutting	1.50	@	1.25
Australian Pouches	2.00	@	2.25
Heavy Baling Bagging	1.50	@	1.60
Paper Mill Bagging	.90	@	1.05
Bagging No. 2	.50	@	—
No. 1 Burlap	—	@	3.50

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1.	.06½	@	.07
New White No. 2.	—	@	.06
Silesias No. 1	.06	@	.06¼
New Black Silesias	.02½	@	.02¾
New Unbleached	—	@	.08
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades—			
Blue Overalls	.05	@	.06
New Black, soft	.04	@	.04¼
Khaki Cuttings	.04	@	.04½
O. D. Khaki	.04½	@	.05
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	—	@	4.00
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.50	@	2.75
Thirds and Blues—			
Repacked	1.60	@	1.80
Miscellaneous	1.00	@	1.20
Black Stockings	3.25	@	3.50
Roofing Stock—			
No. 1	—	@	.63
No. 2	—	@	.58
No. 3	—	@	.53

Foreign Rags

(F. o. b. Boston)

Dark Cottons	—	@	.70
New No. 1 White Shirt Cuttings	6.50	@	6.75
Dutch Blues	—	@	1.80
New Checks & Blues	4.00	@	4.50
Old Fustians	1.55	@	1.65
Old Linsey Garments	.80	@	.90

TORONTO

Paper

(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¾	@	—
No. 2 Sulphite	08½	@	—
No. 1 Colored	.11¼	@	—
No. 2 Colored	.09	@	.10½
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	6.65	@	—
No. 3 M. F. (carloads)	6.20	@	—
No. 1 S. C. (carloads)	7.15	@	—
No. 3 S. C. (carloads)	6.65	@	—
No. 4 S. C. (carloads)	5.70	@	—
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	11.50	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.00	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
Kraft No. 2	5.40	@	—
(Delivered Toronto)			
News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp

(F. o. b. Mill)

Ground Wood	30.00	@	32.00
Sulphite easy bleaching	50.00	@	—
Sulphite, news grade	50.00	@	—
Sulphite, bleached	62.50	@	75.00
Sulphate	60.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.80	@	—
Soft White	2.60	@	—
White Blk. News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.10	@	—
Light and Crumpled Book Stock.	1.20	@	—
Ledgers and Writings	—	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	.80	@	—
Kraft	1.90	@	—
News and Scrap—			
Strictly Overissue	.70	@	—
Strictly Folded	.70	@	—
No. 1 Mixed Paper	.60	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09½	@	.10
Fancy Shirt Cuttings	.06	@	.06¾

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ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

SIXTIETH YEAR

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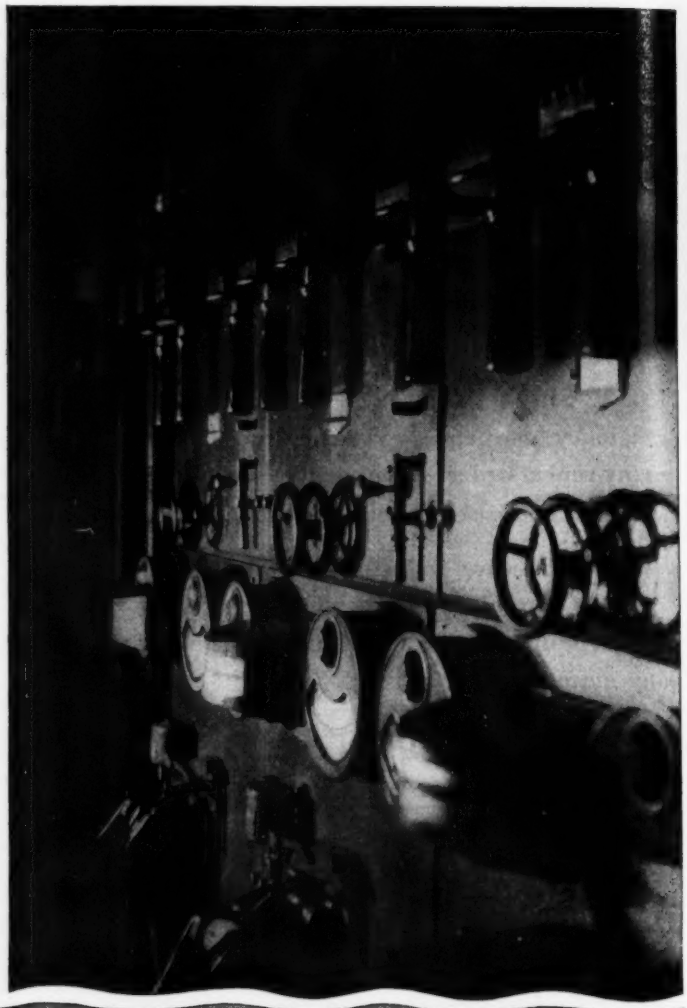

It took three tons of copper to make this switchboard, which has double switches so that the contacts can be cleaned without breaking the circuit.

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